The Royal College of Pathologists
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Guidelines on staffing and workload for histopathology and cytopathology departments (4th edition)

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Comments	This document supersedes the 2012 version and all earlier versions. In accordance with the College's pre-publications policy, the main document was on the College website for consultation from 4 May to 4 September 2011. Eighty-six items of feedback were received and the authors considered them and amended the document as appropriate. **Please note, the only change since 2012 is the addition of Appendix A3.13 on ophthalmic pathology,** written by Professor Jim Lowe and Dr L Dreher Irion. This appendix was on the College website for consultation from 5 March to 2 April 2014, and 19 items of feedback were received. Please email publications@rcpath.org if you wish to see the responses and comments. The entire document is due to be revised in 2016. **Dr Lorna Williamson** **Director of Publishing and Engagement**

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Preface to 4th edition

The Specialty Advisory Committee (SAC) on Histopathology set up a Working Group in November 2009 to revise the College's guidance on staffing and workload. The Working Group is chaired by Dr Anne Thorpe and its members are Drs Mohamad Al-Jafari, Derek Allen, Richard Carr, Tim Helliwell and Scott Sanders. The Working Group has not received funding from any external organisation.

The 2nd edition of the guidelines, published in 2005, has been widely used and has proved useful to pathology departments in assessing staffing requirements and in job planning.

The Working Group has undertaken extensive consultation with College Fellows and we are grateful to all who have assisted us, including those who responded to our survey, the College's Sub-specialty Advisors, members of the SAC and colleagues both locally and nationally.

The work has taken place against the background of intense scrutiny of the efficiency of public services. All sectors in the health service share the challenge of improving productivity while ensuring a safe and high-quality service for patients. The contents of this document are intended to help histopathology departments to achieve appropriate staffing levels for their workload. The document includes a summary of 'key points', which describes the main principles underlying the guidance, as well as tools for implementation in the form of examples of specimen allocation sheets for the distribution of work between consultants.

This edition of the guidelines excludes forensic pathology, paediatric pathology and neuropathology, as these have become separate specialties within the Specialist Register of the General Medical Council.

The document was published on the College website for consultation between 4 May and 4 September 2011, and the feedback from Fellows has informed the final guidance. The responses of the Working Group to the consultation are available from the Director of Communications on request (publications@rcpath.org).

In the 2015 4th edition, ophthalmic pathology (which was not in the 3rd edition), has been added as Appendix 3.13.

Key points

1. The third edition of the *Guidelines on staffing and workload for histopathology and cytopathology departments* (2012) is intended to:

   a) support departments of pathology in balancing staffing with the anticipated workload, so as to ensure that a sustainable, high-quality service is provided for the benefit of patients

   b) facilitate equitable distribution of work amongst pathologists within a department

   c) provide information for job planning.

2. It is expected that service users and commissioners will find this guidance helpful in predicting the resource implications of changes in demand.

3. The guidance uses a points system to indicate ranges of times within which aspects of the work should normally be completed, acknowledging that some specimens will take more or less time.

4. Workload points are allocated prospectively according to the type of specimen and, to a limited extent, the suspected clinical diagnosis. Retrospective reallocation of points is recommended only in exceptional circumstances. Prospective allocation should facilitate consistent implementation of the guidance, as well as being transparent and credible to pathologists and managers.

5. The workload points have been specified for diagnostic microscopic work, leading to the production of a report for patient management, and for macroscopic work (specimen dissection and block selection), which may be performed by trained pathologists or appropriately supervised trainee pathologists or biomedical scientists. However, for job planning, a fixed allocation of time per week for macroscopic work may be a more flexible and realistic approach.

6. The points can be recorded in the laboratory information management system (LIMS) with each case. This enables analysis of the departmental work load.

7. An example specimen allocation sheet is provided, which can assist in distributing cases equitably amongst pathologists within a department.

8. The allocation of points assumes that departments have appropriate staffing levels of pathologists, biomedical scientists and administrative and clerical staff, and that there are good quality microscopes and an effective information management system for recording and communicating results. Any lack of support in these areas will make the diagnostic process less efficient and effective.

9. Aspects of direct clinical care other than those directly involved in the production of diagnostic reports are not covered by the points allocation system. These activities (e.g. multidisciplinary team meetings and the provision of an immediate fine-needle aspiration cytology service in outpatient clinics) are best timetabled through the job planning process. Similarly, job planning should be used to determine the range and time required for supporting professional activities.

10. It is recognised that medical and surgical practice is constantly evolving. It is therefore expected that these guidelines will be subject to regular revision.

1 Introduction

Guidelines on staffing and workload were issued by The Royal College of Pathologists in 1992 and updated in 1999. Since then, there have been major changes in the organisation and practice of histopathology and also in the contract of employment under which consultants work for the NHS. In 2003, a Working Party of the College's SAC on Histopathology undertook a radical review of the guidelines. They concluded that the assessment of workload by crude specimen numbers was no longer useful and recommended a system that took account of the complexity of each request and the hours for which the consultant was contracted to undertake clinical diagnostic work. The same Working Party revised the guidelines in the light of comments received (2005 edition). The workload scores of different specimen types were adjusted and the document was updated to take account of the implementation of the new Terms and Conditions of Service of Consultants (2003).

Consultants are contracted in time periods of 4 hours (or 3 hours if in premium time), known as programmed activities (PAs). There are four types of PA:

- direct clinical care (DCC)
- supporting professional activities (SPA)
- additional NHS responsibilities
- external duties

The workload referred to in this document is part of DCC.

To remain relevant and helpful, the guidelines need to be kept up to date. Accordingly, the SAC on Histopathology convened a new Working Group in November 2009. This Group considered that any amendments to the guidance on workload should take the following points into account:

- the purposes for which the Fellows use the guidelines (or would like to use them)
- which of the potential multiple uses the Fellows consider to be most important
- how well the current guidelines are fulfilling their intended purposes
- how best to make the guidelines fit for the desired purposes
- whether the time allocations to various specimen types need adjustment
- how to make the allocations robust and credible to consultants and managers.

The revised guidelines have been informed by a survey of College Fellows (2010), the expertise of the Sub-specialty Advisors and local validation. The views of Fellows received during the formal consultation period (2011) have been considered and used in preparing the final guidance.

2 Purposes of the guidelines

The purposes of the guidelines are as listed in the 2nd edition:

i) to support pathologists in providing a mechanism for ensuring that an individual's sessional workload is reasonable, safe and practicable but not excessive, recognising that it is in the public interest to reduce errors related to overload, whether sustained or over short periods

ii) to reassure the public that the appropriate workforce resources are devoted to the reporting of pathology specimens

iii) to enable the equitable distribution of work amongst pathologists within a department, having regard to the varying complexities of differing specimen types, as well as the administrative and managerial work of consultants both locally and in the wider interests of the NHS

iv) to facilitate workforce planning

v) to assist pathologists in job planning and in the preparation of supporting documentation for appraisal.

3 Views of Fellows

The Working Group considered that any amendments to the guidance on workload should take into account the views of Fellows. A survey of the Fellowship in 2010 found that all the purposes listed in section 2 were considered quite important or very important by almost all respondents. The ranking was as follows:

1 for workforce planning (additional staff)
2 for job planning
3 for evidence in appraisal and revalidation
4 to ensure fair distribution of work amongst colleagues
5 for benchmarking against other departments
6 to reassure the public that resources are appropriate for a safe service.

The comments from respondents to the survey indicated variability in how successfully the previous guidelines had met their intended purposes. Some Fellows reported that they had gained approval for additional consultant posts through analysis of the workload by the College system. Overall, those who had a computerised system for recording and analysing workload found it helpful in job planning, but some comments indicated a reluctance on the part of managerial colleagues to give the workload units full credence.

We asked Fellows for their views on the appropriateness of the workload scores, in particular whether any specimen types appeared to be over- or underestimated. Many members noted that an endoscopic biopsy (e.g. duodenum or colon) appeared to be over-scored, since three such biopsies amount to almost the same score as a cancer excision specimen, but take much less time. Similar comments were made about skin specimens. There were also suggestions that complex cancer specimens, needle core biopsies of prostate and non-gynaecological cytology were under-scored.

All the comments received from the survey have been considered by the Working Group. It is intended that these guidelines should assist fair distribution of workload amongst colleagues in departments with any degree of subspecialisation. It should not be the case that two pathologists who spend an equal amount of time in diagnostic histopathology reporting should appear to have discrepant workload scores because of anomalies in the time allocation in the guidelines.

4 Prospective approach to workload units

Previously, the guidelines have allowed variation in the number of workload units allocated to the microscopy of a particular specimen type according to the number of tissue blocks, levels or additional stains carried out. The attribution of workload units to a particular specimen was therefore retrospective (ascertained only when the report on the case was completed).

The Working Group considers that there are advantages to having a simplified system in which the allocated workload units are decided only by the specimen type and clinical information and are not normally affected by the variation in the amount of work that may be carried out by the pathologist. This change:

- enables prospective allocation of workload units to pathologists at the time of booking in the specimens, facilitating fair distribution of work among colleagues. A running total of workload for each consultant can be kept either on paper or on an electronic spreadsheet by the cut-up room staff. Daily adjustment to maintain equity is easily effected (section 7)
- renders the scoring transparent and credible. Assignment of units to the case retrospectively by the pathologist is potentially open to the criticism that an individual who regularly takes more blocks or requests more levels or stains than colleagues would be recorded as doing more work. Assignment of workload by specimen type ensures that the implications of changes in workload or staffing are predictable for histopathologists, managers and commissioners.
- ensures consistency. A number of studies have shown marked variation in the self-allocated scoring of cases by pathologists using the College workload units of the 2nd edition.[1, 2] Consistency is necessary for meaningful benchmarking.

5 Workload scheme

In the 2nd edition of the guidelines, one point equated to 6 minutes. Specimens were assigned to four categories of complexity:

- low 1 point
- medium 3 points
- high 5 points
- very high 10 points.

The points were displayed as two-dimensional matrices for microscopy and macroscopy. This limited the flexibility of allocation of workload scores.

We have changed the layout of the units in the appendices from a two-dimensional matrix to simple columns that show a list of specimen types with macroscopy and microscopy points.

The question of whether to use minutes directly or a system of points was considered in detail by the Working Group and the SAC on Histopathology. The decision was made to assign the workload associated with specimens to ranges of minutes, thus reflecting some of the variation in the complexity of the work. This necessitated a modified points system:

- 1–5 minutes 1 point
- 6–10 2 points
- 11–20 3 points
- 21–30 5 points
- 31–50 8 points
- >50 minutes 12 points.

Each specimen received in a separate container should be scored, except where otherwise specified in the tables. For example, if three skin biopsies from one patient are sent in separate containers with one request form, each container is given its own workload score.

The intention is that the great majority of the work involved in handling specimens assigned to a group will be completed within the specified range of minutes (Appendix 3). For microscopy, the points are based on the typical time taken for reporting the case from picking up the slide and request form to completing the report, including the time for checking and authorising the typed report and completing datasets. It is recognised that some specimens will take more time than the assigned value, while other specimens of the same type will take less time. This is the rationale behind combining cases of the same specimen type, with limited regard to the suspected diagnosis. For example, some needle core biopsies might be difficult, requiring immunohistochemical or molecular analysis, and will take longer than indicated in the workload tables. However, many other needle core biopsies will be readily diagnosed and will counterbalance the difficult ones. There are occasional exceptions to this approach, for example, diagnostic needle core biopsies where the suspected diagnosis is lymphoma are recognised as requiring considerable extra work.

A session spent in diagnostic reporting entails much more than the core component of viewing the slides at the microscope and dictating reports. The workload scores are not intended to take account of the time for conferring with colleagues, looking up information in text books or on the internet, discussing with referring clinicians, reviewing previous histology and seeking external expert opinions. It is recommended that DCC time for these essential quality-assurance activities is scheduled into the job plan. The appropriate amount of time is best estimated from diary exercises, as it will vary amongst pathologists depending on the particulars of the job. For most pathologists, it is likely to be 1.0 PA.

In departments with research programmes, there may be specific dissection and reporting protocols for research projects that take extra time compared with that for normal specimen handling. We recommend that the extra time taken is classified as research and that appropriate SPA time is allocated in the job plan.

There will be cases that are allocated to the wrong complexity category at booking in, due to difficulty in interpreting the request form. In such cases, as soon as the error is recognised, the mistake should be rectified in the allocation sheets. This is quite different from altering the workload assigned to a case that just happened to take longer than expected because the pathologist needed extra stains, etc.

In deriving the workload units assigned to specimen types, the Working Group has taken into account the guidance provided in College datasets and tissue pathways, the results of the formal consultation with the Fellows in 2011 and the advice of the College's Sub-specialty Advisors. The Working Group recognises that knowledge is constantly advancing and that as tissue pathways evolve and datasets are updated, so this guidance will need regular review.

6 Recommended work rate

The Working Group estimates that, for planning purposes, most pathologists should be able to achieve 36 points for each DCC PA assigned to reporting, averaged over a working week.

A higher rate of work might be achievable in special circumstances, for example, in extra sessions for waiting-list work undertaken out of office hours, or sessional work by locum histopathologists. In other circumstances, a lower work rate would be appropriate, for example if the consultant is training junior doctors whilst reporting.
It is recognised that some pathologists work faster than others and indeed no pathologist can work at a consistently high intensity throughout the day. Periods of intense concentration

must be separated by breaks or less intense types of work, such as dealing with correspondence. The physical strain of microscopy must also be taken into account. Neck problems can afflict pathologists and this can be mitigated by interspersing microscopy with other activities. The reality of a consultant's life is that there are rarely long periods of uninterrupted reporting. There is an unavoidable 'overhead' of a myriad of tiny activities during a DCC PA.

These guidelines are not intended to provide a basis for a 'fee per case' system of payment. Nothing in these guidelines is intended to alter the nationally agreed terms and conditions of service of consultants or associate specialists, in which time is the basis of remuneration.

7 Annual workload of departments

In assessing a department's annual workload against the medical staffing, the working year of each consultant should be considered as 40 weeks. This accounts for annual leave (6 weeks for consultants of less than 7 years' standing, staff grade doctors and associate specialists; 6 weeks and 2 days for other consultants), study leave (10 days), bank holidays (8 days) and statutory days (2 days, which are incorporated into annual leave in many Trusts). Allowance should also be made for professional or special leave taken to perform duties in the wider interest of the NHS (when not fully accounted for by external duties in the job plan) and short periods of other official leave (for example sick leave, compassionate leave or carers' leave).

The total number of DCC PAs assigned to diagnostic reporting (macroscopy and microscopy) in the weekly job plan timetable of all the consultants and associate specialists in a department should therefore be multiplied by 40 to indicate the annual capacity (see Appendix 1).

This figure can be compared to the total workload received by the department. Depending on the systems used, this may be obtained from the laboratory information management system by totalling the workload entries in each case record, or from the allocation sheets for assigning cases amongst the consultants.

A shortfall in capacity compared with workload received will form the basis of a business case for approval of additional contracted sessions and/or an additional post.

It should be noted, however, that the amount of work that a department can achieve in the time available also depends on supporting resources. The number and expertise of secretarial and laboratory staff, IT facilities, accessibility of journals and up-to-date text books, design of laboratory and offices, quality of microscopes, dictation system, etc. all affect productivity. The current workload points are intended to reflect average practice in the United Kingdom; departments should continually seek to improve the efficiency of reporting histopathology specimens whilst maintaining high quality.

8 Recording workload units for macroscopic and microscopic reporting

Macroscopy	Includes specimen receipt, dictation of the gross description, photography (as appropriate), specimen dissection and block selection.
Microscopy	Includes examination of slides and any special stains or immunohistochemistry, construction and dictation of the report, completion of any data set and verification and authorisation of the transcribed report.

As noted from the survey, pathologists wish to record both the total annual workload of the department to facilitate workforce planning and individual workloads to facilitate workload distribution amongst colleagues.

8.1 Departmental workload

For recording the total annual workload of diagnostic reporting of the department, scores can be entered into each case record in the laboratory information management system. This can be done by using redundant P code lines in the SNOMED coding fields. The system can then calculate the total workload over a defined period using the query facility. The details of this process will vary according to each laboratory's computer system. The department could choose to record both macroscopy and microscopy (using two coding fields) or the more limited information from microscopy scores alone. Scores for microscopy and macroscopy may be assigned to different individuals, though entered at the same time.

Enquiries that combine the P codes used for workload and the T code indicating the organ could assist in assessing changes in sessional requirements imposed by changes in the clinical workload of the hospital. For example, reconfiguration of the clinical provision in a geographical area might lead to a unit taking on an increased number of complex cases in a particular subspecialty. The guidelines should help to predict the impact of such a change on the histopathology department.

8.2 Individual workload

The fair distribution of workload amongst colleagues in an NHS department can be managed by keeping a distribution sheet listing all the consultants on one axis and the daily allocation of workload on the other. The expected allocation of work will depend on the number of PAs of diagnostic reporting that each pathologist is contracted for. This is the total number of PAs contracted, minus PAs assigned for other DCC activities, SPAs and additional and/or external duties (see Appendix 1). The running totals of workload points will guide the adjustment of the case allocations day by day, to maintain the expected workload for each consultant over time. An example worksheet is shown at Appendix 4. Each box can represents up to 5 workload points. There is room in this example for 100 workload points per consultant per day, but the grid can be expanded as necessary.

Various methods of maintaining the required allocation are possible. One method is described by members of the Working Group (Dr Sanders and Dr Carr) and their colleagues at Warwick Hospital.[3] In this method, expected totals of workload points are maintained by day-to-day adjustment of specimen allocation. Alternatively, the running totals could be adjusted so as to keep the same ratio as the consultants' available PAs.

To facilitate the allocation of cases to consultants at booking in of cases by biomedical scientist (BMS) staff, we recommend a laminated specimen allocation sheet for daily use, in which many of the specimen categories are amalgamated. This sheet is most convenient if it is restricted to one side of A4 paper and excludes specimen types never or only rarely received in the department. Example specimen point allocation sheets for macroscopy and microscopy are shown in Appendix 5. Pathology departments can adapt this format to suit their particular case mix.

8.3 Macroscopic workload

Macroscopy may be undertaken by consultant pathologists or, with appropriate training and supervision, by trainee pathologists or biomedical scientists. Points are allocated to each specimen type (Appendix 3) so that this activity can be accounted for as part of a department's total workload, thus helping to ensure that staffing levels are appropriate.

Specimens requiring only transfer from the container to the cassette are normally 'cut up' by BMS staff. Therefore, no macroscopic score is shown for 'cassette transfer only' specimens. If it is required, a separate tally of such cases may be kept. The number of specimens per hour that a BMS may handle is outside the remit of these guidelines, but 20–30 is probably a reasonable estimate.

The variety of direct involvement by consultants in the cut-up process (from periodic supervision of activity to full involvement) makes the allocation of macroscopic work to specific PAs for individual consultants difficult to proscribe. In general, the Working Group recommends that scores for macroscopic workload are not used in keeping running totals of the workload of individual consultants. For job planning, the average amount of time per week that each consultant spends in cutting up (including direct supervision) should be assessed (by a diary exercise, if necessary). This is then accounted for in their timetable as DCC time. Should departments wish to allocate specific macroscopic points to consultants, appropriate allocations are provided in Appendix 3.

Where more of the macroscopic work is undertaken by biomedical scientists and/or trainee pathologists, points could be allocated on a similar basis or timesheets completed to record the time spent in cut-up. This could be useful in predicting changes in the workload of consultants when there are changes in the availability of trainees or suitably trained biomedical scientists.

8.4 Case mix

The guidance in this document assumes that consultants see a mixture of simple and more complex cases. This approach may not adequately reflect the situation in highly specialised practice where a consultant reports only complex cases. For example, in the case of a consultant who specialises in haematopathology, it may be that lymph nodes showing conditions other than lymphoma are reported by other consultants and only those cases that are lymphomas are included in his or her case load. The average time spent on these selected cases would be longer than the average of all the lymph nodes received in the department. It is beyond the scope of the guidelines to advise on such specific circumstances, where the advantages of specialist reporting practice have to be balanced against case mix. The Working Group considers that the points allocation table should not be varied and that exceptional circumstances should be managed by mutual agreement to adjust the number of points per PA expected for the individual consultant.

9 Cytopathology

In the previous editions of these guidelines, the cytopathology workload scores were in four categories:

- cervical cytology (12 minutes)
- non-gynaecological specimen with 1–3 slides (12 minutes)
- non-gynaecological specimen with 4–8 slides (18 minutes)
- non-gynaecological specimen with 9 slides or more (30 minutes).

This section has now been expanded and updated to provide greater flexibility in the allocation of points (see Appendix 3.3).

Fine-needle aspiration clinics undertaken or physically attended by the consultant cytopathologist should be timetabled separately in the job plan. If fine-needle aspirations occur as irregular events in response to clinical requests, an average amount of time per week could be included in DCC PAs.

10 Post-mortem examinations

10.1 Consented examinations

Consented hospital post-mortem examinations now account for a small proportion of the workload of most departments. Nevertheless, they must be accounted for. It is assumed that a hospital post-mortem examination will be carried out to the standards recommended by the College guidelines.[4] It is also assumed that most examinations will be used as an opportunity to train junior doctors.

The Working Group supports the recommendation of the previous edition of the guidelines that 3 hours is an appropriate average time taken for a post-mortem examination. If included in the workload allocation tables, 36 points would be appropriate for the entire process.

10.2 Coroners' examinations

Work for the Coroner does not constitute work for the NHS, although most Coronial autopsies are undertaken by NHS pathologists in NHS premises. This workload is outside the scope of these guidelines. The contractual arrangements for Coronial work are variable. It may be done outside of NHS contracted hours, using time-shifting, or it may be considered, at least in part, as NHS work because of the benefits to the NHS (e.g. teaching and training, feedback to clinical teams, audit, income to the Trust from the Coroner for use of the mortuary). The individual contractual arrangement should be described in the job plan.

11 References

1. Burton J, Hughes D, Suvarna K. Is workload scoring for histopathologists accurate? *RCPath Bulletin* 2007;137:31–33.
2. Chen K. Experiences of using the College's workload matrices. *RCPath Bulletin* 2005;129:29–32.
3. Carr RA, Sanders DSA, Stores OP *et al*. The Warwick system of prospective workload allocation in cellular pathology; an aid to subspecialisation and comparison with The Royal College of Pathologists' system. *J Clin Path* 2006;59:835–839.
4. The Royal College of Pathologists. *Guidelines on Autopsy Practice: Best practice scenarios,* May 2010, June 2006 and January 2005. www.rcpath.org/publications (accessed 21 March 2012).

Appendix 1 Notes on job planning

A1.1 Programmed activities and timetabling

The 2nd edition of these guidelines indicated that the maximum workload should be expressed per direct clinical care (DCC) programmed activity (PA) for consultants employed under the Consultants' Terms and Conditions of Service 2003. We endorse this recommendation. Every consultant should have a job plan detailing how many PAs are contracted for DCC, supporting professional activities (SPA), additional NHS responsibilities and external duties (where applicable). The standard whole-time contract is for 10 PAs, of which 7.5 are for DCC and 2.5 are for supporting professional activities. Some consultants work part time; others contract for extra PAs. Consultants in university departments with particular research and/or teaching duties normally undertake more SPA sessions.

Maintaining a running total of individual workload data will provide robust information on the time used for diagnostic reporting, to enable an appropriate number of DCC PAs to be contracted for each consultant in the department. Strict timetabling of diagnostic reporting is usually artificial, since histopathology is a reactive specialty. One cannot, for example, predict when there will be a request for a frozen section or a post-mortem examination, or when clinical colleagues may wish to discuss a case. Some activities, such as triaging, validating antibodies, selecting control material, etc. are not usually timetabled, as they are dependent on which consultant is available. Time assigned to such activities should be averaged. Histopathologists do not normally experience a PA consisting entirely of 'pure' uninterrupted reporting in the way that a surgeon might spend four hours in the operating theatre. However, the number of PAs assigned to diagnostic reporting should be worked over the course of the week.

Direct timetabling is simpler for some other DCC activities, such as fine-needle aspiration (FNA) clinics and multidisciplinary team meetings (MDM), which are regular and predictable. The average time that each MDM takes in preparation, attendance and follow-up activities is easy to ascertain and can be entered directly into the timetable. Some departments have worked out their own system of workload points for their MDMs, but there can be no universal currency for this as the duration of a particular MDM at one hospital may be very different from that at another.

A1.2 Expert opinions

Some specialised pathologists receive a significant number of cases from outside their institution for expert opinion. It is not possible for these guidelines to recommend workload units per specimen for this type of work. We recommend that an appropriate amount of time is allocated separately in the job plan for this purpose on an individual basis.

A1.3 Resources

Discussion of the resources needed to enable delivery of the work is an integral part of job planning. The amount of work that a pathologist can achieve in a given time is affected by the level of support provided by the employer. For maximum efficiency, the pathologists need good secretarial assistance, sufficient senior BMS staff (including some who can undertake part of the cut-up), an appropriate laboratory computer system, fast internet connection, high-quality microscope, ergonomic seating, a quiet office, up-to-date textbooks and access to relevant pathology journals. If any aspect of support is inadequate, then the pathologists' productivity will be adversely affected.

A1.4 Annualisation

The Consultant Contract (2003) and the Staff Grade and Associate Specialist (SAS) Contract (2008) enable annualisation of job plans (by individual agreement), such that work can be concentrated into part of the year, allowing free time in the rest of the year. This can be useful for those with school-aged children or those who wish to take time for a research project or travelling. This is facilitated by keeping a running total of workload for each pathologist. Over the year, there will be times when the individual lags behind or goes ahead, but at the end of the year he or she should have achieved the expected workload compared with colleagues.

A1.5 Trainees

The impact of trainees on a consultant's workload is highly variable and difficult to quantify. On one hand, they make a service contribution. On the other hand, consultants spend time supervising and training. It is expected that some of the time allocated for supporting professional activities in job plans will be spent in teaching the trainees. On balance, the impact of trainees should normally be neutral. Work as a designated educational supervisor should have a separate time allocation.

Detailed job planning guidance is outside the scope of this document. Further advice can be found on the websites of NHS Employers[1] and the British Medical Association.[2] An article on departmental job planning by Dr Sanders, Dr Carr and colleagues was published in January 2011 issue of The Royal College of Pathologists' *Bulletin*.[3]

References

1. NHS Employers. Consultant job planning toolkit. www.nhsemployers.org/PayAndContracts/MedicalandDentalContracts/ConsultantsAndDentalConsultants/ConsultantJobPlanningToolkit/Pages/ConsultantJobPlanningToolkit.aspx (accessed 21 March 2012).
2. British Medical Association. Advanced job planning for consultants. www.bma.org.uk/employmentandcontracts/working_arrangements/job_planning/CCSCadvancedjobplanning090408.jsp (log-in required) (accessed 10 April 2011).
3. Sanders S *et al*. An approach to departmental job planning in cellular pathology. *RCPath Bulletin* 2011;153:45–49.

Appendix 2 Workload management strategy

Where there is a significant mismatch between staffing and workload, it will be necessary to implement a workload management strategy to ensure the continued provision of a safe and effective histopathology service. A mismatch may be temporary, for example due to prolonged leave, or permanent, arising due to an increase in demand (case numbers, case complexity, additional duties, etc). Advice regarding workload management in such circumstances is available in the College's 2006 document, *Workload Management in Laboratory Medicine: Patient safety and professional practices.*[1]

Pathologists who find themselves faced with an inappropriate workload should inform their clinical director without delay. This applies both to excessive case numbers and also to being asked to report cases that are outside their normal area of practice.

As a first step, specimens should be triaged according to the level of urgency, to ensure that patients requiring rapid diagnosis are not endangered. A triaging policy should be agreed after discussion with pathology consultant colleagues, clinical consultant colleagues and the clinical director for pathology. Depending on the duration of the problem, it may be necessary to manage a waiting list for less urgent specimens.

Second, consideration should be given to the possibility of replacement of consultant activity by the use of extended roles of biomedical scientists.

Third, the recommendations of the 2005 College report, *Histopathology of Limited or No Clinical Value (2nd edition)*[2] should be implemented, with the agreement of clinical teams. This could enable a reduction in workload if any activity of no clinical value is being undertaken.

If the situation is not remediable within a reasonable timeframe, then consideration should be given to using a remote reporting service or engaging a locum consultant to assist in the short term, until additional recruitment can be implemented.

The ultimate test of whether staffing levels are adequate is whether consultants have sufficient time to deliver a high-quality service, including the monitoring of its reliability by participation in audit and quality assurance schemes, and to participate in enough educational activities to maintain their own professional development.

References

1. The Royal College of Pathologists. *Workload Management in Laboratory Medicine: Patient safety and professional practices*, 2006. www.rcpath.org/publications (accessed 21 March 2012).
2. The Royal College of Pathologists. *Histopathology of Limited or No Clinical Value (2nd edition)*, 2005. www.rcpath.org/publications (accessed 21 March 2012).

Appendix 3 Workload points for histopathology specialties

The following tables indicate the recommended points to be allocated for microscopy (micro) and macroscopy (macro) in relation to specific types of specimen.

No macroscopy points are allocated for specimens requiring only transfer from container to cassette.

Unless otherwise indicated, each specimen container is allocated the specified points.

A3.1 General guide for lymph nodes from all systems (non-haematological)

Specimen	Micro	Macro
Staging for known cancer	1	1
Additional node(s) at cancer resection (per pot)	1	1
Sentinel lymph node biopsy (H&E and multiple levels)	3	1
Sentinel lymph node biopsy (H&E, multiple levels and immunohistochemistry)	5	1
Node excision for suspected metastatic malignancy – unknown primary tumour	5	1
Block dissection of lymph nodes (e.g. neck, groin, axilla)	5	5

A3.2 Frozen section assessment at any site

Specimen	Micro	Macro
Any specimen type, ≤3 sections	3	3
Any specimen type, >3 sections	5	3

For Moh's procedure, see A3.6 Dermatopathology.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.3 Cytopathology

Specimen type	Points
Urine	2
Nipple discharge	2
Cyst aspirate	2
Skin scrapings	2
Fluids – synovial, cerebrospinal	2
Sputum	2
Endoscopic brushings and washings	3
Peritoneal washings	2
Fluids – pleural, ascitic, pericardial	3
FNA of solid organ or mass	3
Endoscopic ultrasound guided FNA and US guided transbronchial FNA	5
Gynaecological cytology (ThinPrep or SurePath) (pre-screened)	2

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.4 Breast pathology

Specimens	Micro	Macro
Capsulectomy	2	2
Reduction mammoplasty (each side)	2	2
Revision of mastectomy scar	2	2
Suspected metastasis in mastectomy scar	2	2
Cavity wall shave biopsy	2	2
Nipple skin biopsy	3	–
Needle core biopsy	3	–
Mammotome biopsy	3	–
Lumpectomy (for benign lump)	3	2
Dochectomy	3	2
Axillary node clearance (in up to 3 pots)	5	5
Prophylactic mastectomy	5	5
Wide local excision (including wire localized) or re-excision	8	8
Mastectomy for malignancy*	8	8

* **Note:** It is recognised that mastectomies with multiple tumours and post-chemotherapy mastectomies are more time-consuming. However, the Working Group considered that the points allocated reflect adequately the average work involved in examining mastectomy specimens.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.5 Cardiorespiratory pathology

Specimens	Micro	Macro
Heart and major vessels		
Pulmonary thrombendarterectomy	2	1
Cardiac valve	2	1
Biopsy of aorta or large vessels	2	2
Temporal artery biopsy	2	–
Native endomyocardial biopsy	8	–
Transplant endomyocardial biopsy	5	–
Cardiac mass (excision)	3	2
Heart (autopsy for GUCH, HOCM or SADS*, referred, explant)	8	8
Heart (autopsy for CAT+MI)	5	5
Lungs and airways		
Bronchial/ transbronchial biopsy; needle biopsy	3	–
VATS/open biopsy	5	1
Transplant bronchial	5	–
Benign resection	5	3
Malignant resection of lung	8	8
Malignant resection of lung and chest wall	8	12
Bronchial resection margin	1	1
Pleura		
Needle biopsy	3	–
Thoracoscopic / open biopsy	3	1
Non-neoplastic resection	3	3
Pleurectomy for neoplasm	8	3
Mediastinum (including thymus)		
As incidental specimen with other organ	2	1
Diagnostic biopsy	5	–
Excision for primary disease**	5	3

* Grown-up congenital heart disease; hypertrophic cardiomyopathy; sudden arrhythmic death syndrome.

* * For mediastinal lymphoma, see Haematopathology table 3.10.
For bone and soft tissue tumours, see Osteoarticular and soft tissue table 3.13.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.6 Dermatopathology

Specimens	Micro	Macro
Small samples		
Punch/incision/curettage/shave biopsy (for lesion, not rash)	1	–
Punch/incision for melanoma (usually lentigo maligna)	3	–
Penile or vulval skin biopsy (as urology / gynaecology)	3	–
Inflammatory skin biopsy (rash, blister, panniculitis, etc.)	3	–
Horizontal and vertical sections for alopecia (whole case)	8	1
Excision specimens		
Simple excision for benign lesion (non-inflammatory)	1	1
Excision dysplastic naevus	3	1
Excision of carcinoma	3	1
Orientated excisions (high risk anatomic sites: e.g. lips, nose, peri-ocular, pinna, external auditory meatus and anal/perianal resections)	5	3
Excision of melanoma	5	1
Special investigations, e.g. direct immunofluorescence / genotype / flow cytometry	5	–
Frozen section for Moh's procedure		
Frozen section examination of main specimen	5	3
Frozen sections examination of each additional layer	3	3

Note: for cutaneous lymphoma, refer to Haematopathology table A3.10.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.7 Endocrine pathology

Specimens	Micro	Macro
Adrenal glands		
Core biopsy for presumed neoplasm	3	–
Resection – non-neoplastic	3	1
Resection – neoplastic	5	3
Parathyroid glands		
Resection one gland – no frozen section*	1	1
Excision of recurrence/metastasis	3	1
Pituitary		
Resection – neoplastic	5	1
Thyroid		
Open or core biopsy	3	–
Thyroidectomy (including lobectomy) for presumed non-neoplastic disease	3	3
Thyroidectomy (including lobectomy) for presumed neoplastic disease	5	3

* See table A3.2 for frozen sections.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.8 Female genital tract pathology

Specimens	Micro	Macro
Vulva		
Vulvectomy partial/simple	5	5
Vulvectomy radical	8	5*
Vulval biopsy (see A3.6 Dermatopathology)		–
Uterus and vagina		
Punch biopsy	2	–
Polyp (Macro score applies only if dissection required)	1	1
Loop excision of transformation zone (LETZ)	3	2
Trachelectomy	5	3
Wertheim's hysterectomy	8	8
Endometrial biopsy/curettage	2	–
Transcervical resection of endometrium or fibroid	2	1
Products of conception (POC)	2	1
POC, suspected molar pregnancy (clinical or macroscopic)	3	1
Myomectomy	2	2
Benign hysterectomy (+/- ovaries)	3	2
Malignant hysterectomy (simple)	5	5
Malignant hysterectomy (modified radical)	8	8
Ovary and fallopian tubes		
Sterilisation (when not paid as fee per item under family planning)	1	1
Wedge biopsy	2	1
Resection (benign)	3	1
Prophylactic ovariectomy for BRCA (per side)	2	2
Resection (malignant or multilocular cyst, ?malignant)	8	5**
Omentectomy	2	2
Other		
Peritoneal biopsy	2	–
Needle biopsy (pelvis/omentum/mass)	3	–
Placenta	3	3
Pelvic exenteration (i.e. bladder and/or rectum)	8	12

*When radical vulvectomy includes lymph nodes *en bloc*, allocate 8 points for macroscopic examination.

**When benign uterus +/- other ovary are attached, allocate 8 points for macroscopic examination.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.9 Gastrointestinal pathology

Specimens	Micro	Macro
Mucosal biopsy, 1 pot	1	–
Mucosal biopsy from one organ, 2–5 pots (or received in 1 multiwell cassette)	3	–
Mucosal biopsy from one organ, >5 pots (or received in 2 multiwell cassettes)	5	–
Colon series either oriented on an acetate strip in one pot, or in multiple pots, or received in multiwell cassette, specifying sites	3	–
Gall bladder	1	1
Anastomotic doughnut	1	1
Polyps, haemorrhoids, fistulae, pilonidal sinus	1	1
Appendix	1	1
Omentum or peritoneal biopsy	2	–
Omentectomy	2	2
Delorme's mucosal resection for prolapse	1	1
Endoscopic mucosal resection of tumour	3	2
Transanal endoscopic microsurgery	5	2
Resection of anal margin malignancy (as for dermatopathology)	5	3
Resection of small bowel for benign disease	3	3
Gastrectomy for benign disease	3	3
Small bowel resection for malignancy	8	8
Gastrectomy for malignancy	8	8
Oesophagectomy for malignancy	8	8
Colectomy for benign disease (e.g. diverticular/ischaemica/torsion)	3	3
Colectomy for polyposis/idiopathic inflammatory bowel disease	5	5
Colectomy, anterior or AP resection for colorectal or anal cancer (includes synchronous cancers and additional part organs)*	8	12

* It is recognised that colectomies with multiple tumours and post-chemotherapy colectomies are more time-consuming; however, the Working Group considered that the points allocated reflect adequately the average work involved in examining colectomy specimens.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.10 Haematopathology

Specimens	Micro	Macro
Lymph node, needle core: not lymphoma	3	–
Lymph node, excision biopsy: not lymphoma	3	1
Lymph node (or other organ), needle core: lymphoma*	8 (+5)#	–
Lymph node (or other organ◊), excision: lymphoma*	8 (+5)#	1◊
Bone marrow trephine	8 (+5)#	–
Spleen for trauma	3	1
Spleen (haematological)	8 (+5)#	2

* Based on microscopic examination and need for extended lymphoma immunohistochemical panels.

◊ Macroscopic points are determined from points allocated for malignant resections at the site of origin (see other tables).

\# Supplementary reports from other modalities and/or incorporation of molecular studies/flow cytometry etc.

Explanatory notes

Retrospective adjustment of scores is recommended in certain circumstances in haemato-pathology, in view of the high number of antibodies required for diagnosis and classification of lymphomas and the need, in some centres, for reports synthesising information from multiple diagnostic modalities.

1. In cases categorised clinically as non-lymphoma where initial microscopy shows lymphoma or that full lymphoma work-up is necessary, it is recommended that the score be amended upwards. Where cases are categorised clinically as lymphoma and initial microscopy (i.e. before immunohistochemistry has been undertaken) shows other pathology, such as a specific infection, reactive changes or metastasis, then the score should be amended downwards.

2. In some departments, biopsies in which initial microscopy shows lymphoma (or that full lymphoma work-up is necessary) are routinely referred to a specialist haematopathologist for diagnosis. In such practice, the primary pathologist should be allocated 5 points for microscopy (to include dictating the referral letter).

3. Generating a synthesised report (when done by the pathologist) to include results from other modalities (e.g. immunophenotyping, cytogenetics, clonality studies) should add 5 points to the score, as indicated in the table. This might necessitate retrospective adjustment.

4. In the unusual circumstance where the pathologist carries out molecular diagnostic work or other highly specialised investigation him/herself, a points allocation should be determined locally.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.11 Head and neck pathology

Oral

Specimen	Micro	Macro
Mucosal biopsy (polyps and cysts)	1	–
Mucosal biopsies (leucoplakia/inflammatory/?dysplasia or malignancy)	3	–
Tooth	3	1
Salivary gland tumour	3	2
Odontogenic tumour	5	2
Cancer resection (soft tissue, including known salivary)	8	5
Cancer resection (involving bone)	8	8
Lip (see A3.6 Dermatopathology)		

ENT

Specimen	Micro	Macro
Biopsy of larynx, nasopharynx, oropharynx, auditory canal, middle ear, mastoid cavity	2	–
Nasal polyps (per side)	1	1
Benign tonsils (per side)	1	1
Tonsil suspected carcinoma	5	2
Tonsil lymphoma (see A3.9 Haematopathology)		2
Major cancer resection (e.g. laryngectomy; laser resection)	8	8
Pinna and external auditory canal (see A3.6 Dermatopathology)		

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.12 Liver and pancreatic pathology

Specimens	Micro	Macro
Liver		
Liver biopsy (malignant)	3	–
Liver biopsy (inflammatory or transplant)	8	–
Liver resection for metastasis	5	5
Liver resection primary tumour	8	5
Explant liver resections	8	5
Pancreas		
Pancreas diagnostic biopsy	3	–
Pancreatic or bile duct resection for benign disease	3	1
Partial pancreatic or bile duct resection for malignancy	5	8
Whipple's pancreatico-duodenectomy	8	8

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.13 Ophthalmic pathology

Specimens	Micro	Macro
Eyelid skin – small samples		
Punch/incision/curettage/shave biopsy – benign neoplasm	1	–
Punch/incision/curettage/shave biopsy – malignant neoplasm (non melanoma)	2	–
Punch/incision/curettage/shave biopsy – melanoma (see A3.6 Dermatopathology)		–
Biopsy – inflammatory skin	3	–
Skin excision specimens		
Benign non-inflammatory lesion	1	1
Orientated excisions of tumours (e.g. pentagons of eyelids, medial and lateral canthus, anterior lamella, posterior lamella)	5	3
Conjunctiva		
Benign non-neoplastic, non-inflammatory/degenerative condition (e.g. cyst, pinguecula, pterygium)	1	–
Benign inflammatory	3	–
Benign tumour	2	1
Malignant tumour biopsy	3	–
Malignant tumour excision	3	3
Conjunctival lymphoma (see A3.10 Haematopathology)		1
Map biopsy 1 container	3	–
Map biopsy 2–6 containers	5	–
Map biopsy over 6 containers	8	–
Special investigations (e.g. direct immunofluorescence for ocular surface autoimmune disorder, PCR, etc.)	5	–
Cornea		
Biopsy	2	–
Button	2	1
Complex cornea	5 (+5)*	1
Donor cornea-scleral ring	2	1
Special investigations (e.g. EM, PCR, etc.)	8	–
Exenteration	8	8
Enucleation		
Non-neoplastic	5	3
Neoplastic	5 (+5)*	5
Evisceration	5	1

Orbit (including optic nerve and lacrimal gland)		
Biopsy – non-neoplastic	5	1
Biopsy – neoplastic	5	1
Orbital lymphoma (see A3.10 Haematopathology)		1
Cytopathology		
Core biopsy/pars plana vitreous specimen	5	–
FNA/vitrector specimen of intraocular tumour	5 (+5)*	–
FNA/anterior chamber tap	5	–
Impression cytology – cornea	3	–
Chorio-retinal biopsy	5	–
Local resection of intraocular tumour	5	2
Epiretinal membrane/ILM/ posterior hyaloid membrane	1	–
Lacrimal sac		
Inflammatory	2	1
Benign	3	1
Malignant	5	1
Trabecular tissue	2	–
Lens and IOL	2	1
Temporal artery biopsy (see A3.5 Cardiorespiratory)		–

* Supplementary reports from other modalities (e.g. EM, PCR performed elsewhere).

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.14 Osteoarticular and soft tissue pathology

Specimens	Micro	Macro
Bone		
Trephine, open biopsy, curettings (any suspected diagnosis in non-specialist setting)	3	–
Trephine, open biopsy, curettings (in specialist orthopaedic pathology unit, where most are malignant or difficult benign and where consultants always perform the macroscopic examination)	5*	1
Bone resection for benign disease	3	3
Bone reamings ? pathological fracture	3	–
Large bone resection for metastatic disease	3	5
Large bone resection for primary malignancy*	8*	12
Joint		
Synovial biopsy	3	–
Soft tissue from joint revision surgery	2	1
Soft tissue		
Core or open biopsy for suspected benign disease	3	–
Core or open biopsy for suspected malignancy*	5*	–
Excision for benign disease (e.g. lipoma, ganglion cyst)	1	1
Excision for malignancy *	8*	5

* Generating a synthesised report (when done by the pathologist) to include results from other modalities (e.g. cytogenetics) should add 5 points to the score. This might necessitate retrospective adjustment.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

A3.15 Urological pathology

Specimen	Micro	Macro
Bladder and ureter		
Biopsy	2	–
Transurethral resection of tumour (TURBT)	3	1
Cystectomy (non-neoplastic)	3	3
Radical cystectomy	8	8
Ureter sent separately with radical cystectomy	1	1
Prostate		
Multiple needle core biopsies of prostate (1 container)	3	–
Multiple needle core biopsies of prostate (2–6 containers)	5	–
Multiple needle core biopsies of prostate (over 6 containers)	8	–
Transurethral resection of prostate (TURP)	3	1
Radical prostatectomy (conventional or large blocks)	8	8
Penis		
Foreskin (benign circumcision)	1	1
Foreskin (dysplasia/malignant)+ orientation	5	3
Penectomy	5	5
Penile skin biopsy (see A3.6 Dermatopathology)		
Testis, epididymis and appendages		
Non-neoplastic epididymis, testicular appendages, vasa deferentia (both)*	1	1
Testicular biopsy for infertility (including Johnson's index) per side	3	–
Orchidectomy, non-neoplastic	2	2
Orchidectomy, neoplastic	8	3
Kidney		
Renal pelvis/ureter, non-neoplastic	2	2
Renal pelvis/ureterectomy, neoplastic	5	3
Nephrectomy, non-neoplastic	3	2
Nephrectomy, neoplastic	8	8
Renal core biopsy (non-medical)	3	–
Renal biopsy (medical)	12	1
Interpretation of electron microscopy images of medical renal biopsy**	3	–
Basement membrane measurements (when done by pathologist)	3	–

* When not paid as fee per item under family planning.

** In the unusual circumstance that the pathologist uses the electron microscope to take the images themselves, a higher number of points should be determined locally.

Time (minutes)	Points
1–5	1
5–10	2
11–20	3
21–30	5
31–50	8
>50	12

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Appendix 4 Example worksheet for daily allocation of specimens amongst consultants

Month: **Week starting Monday** _____ **Page x/y**

	Dr A: Running total for month	**Total**	**Dr B:** Running total for month	**Total**	**Dr C:** Running total for month	**Total**	**Dr D:** Running total for month	**Total**	**Dr E:** Running total for month	**Total**	**Score**
Mon											
Tues											
Wed											
Thurs											
Fri											
	Running total										

Appendix 5 Specimen allocation sheets

Specimen allocation sheet Micro	Micro score
Additional lymph nodes at resections.	1
Temporal artery biopsy. Thymus (incidental resection).	2
Sentinel node (H&E/levels); diagnostic frozen section: ≤3 sections	3
Lymph node ?metastasis; lymph node block dissection; sentinel node (+immunos); frozen section: >3 sections	5
Breast: gynaecomastia/reduction mammoplasty (per side), implant capsule, cavity wall; scar revision; skin metastasis	2
Breast: needle core; nipple skin; benign lumpectomy; SLNB (H&E/Levels)	3
Breast: axillary node clearance (≤ 3 pots); prophylactic mastectomy	5
Breast: mastectomy or WLE for cancer or re-excision	8
Cytology: urine; nipple discharge; cyst; skin scrapings; synovial; CSF; sputum; gynae: Thin prep or pre-screened case; staging peritoneal washings	2
Cytology: bronchial washings/brushings; pleural, peritoneal ascites, pericardial; FNA solid organ. Gynae: not prescreened	3
Cytology: endoscopic USScan guided FNA and USScan guided transbronchial FNA	5
Dermpath: punch / incision/ curettage / shave: benign and malignant epithelial lesions (AK / Bowen's / dysplasia / Ca in situ / BCC / SCC) **excluding inflammatory dermatoses**. Excision: benign lesions	1
Dermpath: excision: AK / Bowen's / dysplasia / Ca in situ / BCC / SCC / dysplastic naevus. punch / incision: ?melanoma (usually lentigo maligna); nipple, penile or vulval bx; frozen section margin/additional layers; inflammatory dermatoses (rash / blister / panniculitis etc)	3
Dermpath: melanoma (incl. excision ?lentigo maligna); orientated excision (lip, nose, peri-ocular, ear, anus); frozen section main excision specimen; direct immunofluorescence; sentinel node	5
Dermpath: alopecia (horizontal and vertical) whole case	8
Dermpath: lymphoproliferative disorder (see haempath section for detailed notes)	8(+5)
Endocrine: adrenal; needle biopsy, non-neoplastic resection	3
Endocrine: adrenal; neoplastic resection	5
FGT: cervix/vaginal polyp. fallopian tube (serilization); vulva/vagina (as skin): benign bx/excision **(excluding inflammatory)**	1
FGT: vaginal/cervical punch / wedge bx. endometrial sampling incl. POC. Fibroidectomy (incl. transcervical resections). Ovary: wedge bx. Peritoneal bx. Omentum	2
FGT: cervix LLETZ; benign uterus (+/- tubes and ovaries). Benign resections ovary/tube. POC: suspected molar gestation; placenta; vulva/vaginal (as skin): inflammatory bx / bx/ local excision for VIN, carcinoma, dysplastic naevus	3
FGT: cervix: cone; malignant simple hysterectomy; vulvectomy (simple/partial) and excision melanoma	5
FGT: malignant radical hysterectomy and exenteration; vulvectomy (radical); malignant ovary / complex cystic	8

Specimen allocation sheet Micro (continued)	Micro score
GIT: appendix; fistula; pilonidal sinus; anal/perianal haemorrhoids / tags; gall bladder; mucosal biopsy (1 pot)/ polyp; donut (processed)	1
GIT: omental/peritoneal open biopsy. Omentectomy	2
GIT and liver: mucosal biopsies / polyps (2 to 5 pots/1 mult-well); liver/pancreas bx (malignant); bowel resection: benign	3
GIT and liver: mucosal bx's >5 pots (>1multi-well); colectomy for polyposis / inflammatory bowel dis. Partial bile duct or pancreatic resection for malignancy. Malignant anal/perianal skin resection. Liver resection for metastasis	5
GIT: malignant oesophagus / gastric / small bowel / colon / AP resection; Liver: Inflammatory bx or transplant, primary malignant or explant resection. Malignant pancreatico-duodenal resection	8
H&N: oral mucosal polyps / cysts. Dental cysts; nasal polyps (per side). Tonsil (per side); additional LNs	1
H&N: mucosal bx: Nasopharynx, oropharynx, larynx, auditory canal, mastoid cavity	2
H&N: oral mucosal bx: leucoplakia / inflammatory / dysplasia / malignancy. Tooth. Benign tumour excision; salivary gland; parathyroid frozen ≤ 3 sections. Thyroid: Core bx / non-neoplastic resection	3
H&N: thyroid gland: neoplastic resection. Neck dissection (per side). Parathyroid frozen > 3 sections. Tonsil carcinoma.	5
H&N: cancer resection (incl. known salivary gland) +/- bone including laryngectomy	8
Haempath: needle core LN, lymph node, spleen: non-haematolymphoid dis.	3
Haempath: needle core or LN, spleen, skin, thymus: ?haematolymphoid dis. Bone marrow trephine	8(+5)
Osteoarticular: synovial joint revision surgery	2
Osteoarticular: trephine, open bx, curettings (non specialist). Benign bone resection, reamings. Metastasis. Synovial bx	3
Osteoarticular: primary malignant resection	8
Respiratory: bronchial resection margin	1
Respiratory: needle core; bronchial / trans bronchial; pleura.	3
Respiratory: VATS/ open bx. Transplant bronchial bx. Benign resections. Mediastinal diagnostic bx. Or primary dis. (excluding haematolymphoid dis. – see haempath)	5
Respiratory: Malignant resection lung / chest wall	8
Soft tissue: benign simple excisions e.g. lipoma / ganglion	1
Soft tissue: core/open bx ?benign disease	3
Soft tissue: core/open bx ?malignant disease	5
Soft tissue: malignant resection/excision	8
Uropath: epididymis, testicular appendage or vasectomy (both), ureter (separate at cystectomy); foreskin (benign). Additional LNs	1
Uropath: bladder bx. Renal pelvis / ureter benign. Testis: non-neoplastic	2
Uropath: needle core prostate (1 pot); kidney core bx (non-medical). Nephrectomy (benign), TURBT; TURP; testis bx: infertility (per side); penile bx; cystectomy: non-neoplastic	3
Uropath: needle cores prostate (2 to 6 pots). Neoplastic resections: penis, foreskin; renal pelvis / ureter	5
Uropath: needle cores prostate (>6 pots). Neoplastic resections: bladder / kidney / prostate / testis	8
Uropath: renal biopsy (medical)	12

Specimen allocation sheet Macro	Macro score
General: temporal artery. Needle, curettage, endoscopic, punch, incision, shave bx	–
General: lymph node: staging or sentinel. Polyp.	1
General: frozen section	3
General: lymph node group (e.g. neck; axilla; groin)	5
Breast: nipple skin; needle core; mammotome	–
Breast: capsule; reduction (per side); scar revision or metastasis; cavity wall; lumpectomy (benign); dochectomy	2
Breast: axillary node clearance; prophylactic mastectomy	5
Breast: wide local excision (+/-wire) or re-excision; mastectomy	8
Derm: punch, incision, curettage; shave	–
Derm: simple excision; alopecia horizontal/vertical sections (whole case)	1
Derm: orientated excision (high risk anatomical sites); frozen section	3
Endocrine: adrenal (non-neoplastic); parathyroid; pituitary	1
Endocrine: adrenal (neoplastic); thyroid	3
FGT: cervix bx. Endometrial biopsy/curettage. Omental / peritoneal bx.	–
FGT: polyp. Trancervical resection fibroid. POC. Sterilisation. Ovary (wedge or benign resection)	1
FGT: cervix LETZ. Myomectomy (fibroid resection). Benign hysterectomy (+/- tubes). Omentectomy	2
FGT: trachelectomy	3
FGT: vulvectomy. Malignant simple hysterectomy. Ovary malignant or complex cystic	5
FGT: Wertheim's or modified radical hysterectomy	8
FGT: pelvic exenteration (i.e. with bladder and rectum)	12
GIT: mucosal bx incl. series and multiwell. Omental / peritoneal bx.	–
GIT: appendix. Gall bladder. Mucosal resection prolapse. Polyps, haemorrhoids, fistulae, pilonidal sinus. Anastomotic donut	1
GIT: omentectomy. Mucosal resection tumour	2
GIT: anal resection (malignant - see skin). Gastrectomy, small or large bowel resection (benign)	3
GIT: colectomy for polyposis / inflammatory bowel disease	5
GIT: oesophagus, stomach, small bowel resection (malignant)	8
GIT: colectomy or AP resection	12
Liver: resection primary tumour or metastasis	5
Pancreas and bile ducts: benign resection	1
Pancreas and bile ducts: malignant resection	8
Haematological: lymph node excision. Spleen for trauma	1
Haematological: spleen (haematological disease)	2

Specimen allocation sheet Macro (continued)	Macro score
Head and neck: endoscopic bx. Polyps and cysts	–
Head and neck: tooth. Nasal polyps (per side). Tonsil (benign, per side)	1
Head and neck: salivary gland. Odontogenic tumour. Tonsil (?Ca)	2
Head and neck: cancer resection (incl. known salivary)	5
Head and neck: cancer resection incl. bone	8
Osteoarticular and soft tissue: bone trephine; curettings; reamings. Synovial biopsy. Soft tissue: core or open Bx	–
Osteoarticular and soft tissue: benign soft tissue (lipoma, ganglion, etc.)	1
Osteoarticular: bone resection (benign)	3
Osteoarticular: large bone resection (metastasis). Soft tissue malignant resection	5
Osteoarticular: large bone resection (primary)	12
Respiratory: bronchial, transbronchial or needle bx	–
Respiratory: VATS/open bx; bronchial resection margin; Incidental thymus; pleural open bx	1
Respiratory: benign resection; pleural resection; mediastinal excision specimen	3
Respiratory: malignant resection of lung	8
Respiratory: malignant resection and chest wall	12
Urology: needle core, open or endoscopic bx.	–
Urology: foreskin (benign); TURBT; ureter at cystectomy; medical renal biopsy	1
Urology: testis (non-neoplastic); renal pelvis or ureter non-neoplastic excision, kidney (non-neoplastic)	2
Urology: foreskin (dysplasia / tumour); cystectomy (benign); testis (neoplasm); renal pelvis or ureter, neoplastic excision	3
Urology: penectomy	5
Urology: radical cystectomy; nephrectomy (neoplastic); radical prostatectomy.	8