

Implementation of the extended role of biomedical scientists in specimen description, dissection and sampling – Final report

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**The Joint Royal College of Pathologists
and Institute of Biomedical Science
Working Group on the implementation of the
extended role of biomedical scientists in
specimen description, dissection and sampling**

FINAL REPORT, January 2004

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1 Summary

- 1.1 This report summarises the results, conclusions and recommendations of the Joint Royal College of Pathologists and Institute of Biomedical Science Working Group on the implementation of the extended role of biomedical scientists in specimen description, dissection and sampling.
- 1.2 A pilot study involving 12 sites (six district general hospitals and six teaching hospital pathology departments) ran for one year, from 1 June 2002 until 31 May 2003.
- 1.3 There has been an overwhelmingly positive response from the pilot sites to the concept and implementation of the extended role. Benefits include:
 - the release of significant amounts of consultant time for other professional activities
 - an increase in job satisfaction for biomedical scientists
 - improved communication and the development of teamwork between biomedical scientists and pathologists
 - a more efficient and flexible use of cut-up/trimming facilities in the department.
- 1.4 Systematic error logs and formal audit mechanisms have not demonstrated any problems relating to biomedical scientists taking on this extended role.
- 1.5 There is no evidence that delegation of the description, dissection and sampling of histopathological specimens is associated with a reduction in the overall standard of a histopathologist's professional practice or is detrimental to histopathological reporting or timeliness of reports and therefore to patient management.
- 1.6 Anecdotal evidence and evidence from a small number of surveys conducted by the pilot sites has not shown any detrimental effect on the training of junior histopathologists. They and biomedical scientists approved of the extended role.
- 1.7 Sites with considerable experience should be appropriately funded and encouraged to offer training to biomedical scientists from departments wishing to set up the process. It is critical that the funding requirements are recognised. Such sites should also be encouraged to share their documentation with other departments implementing the extended role, to save repetition of work.
- 1.8. Lack of time and limited staff resources are potential major constraints to establishing the extended role of biomedical scientists.
- 1.9 The adoption of the extended role of biomedical scientists is consistent with the modernisation of the National Health Service to develop multi-skilling amongst staff in order to make maximum and most efficient use of resources.
- 1.10 Provided that the principles of good practice for this advanced role of biomedical scientists in specimen cut-up (in preparation – see paragraph 12.3) are adhered to and there is appropriate support and resourcing, all histopathology departments should consider instituting the extended role, but individual consultant histopathologists must retain the right to decide whether or not to delegate. In accordance with the principles set out in the General Medical Council's *Good Medical Practice*,¹ the consultant remains medically accountable and ultimately responsible for the delegated work.

2 Introduction

- 2.1 The Royal College of Pathologists' original *Working Party Report*² on the proposed extended role of biomedical scientists in the description, dissection of specimens and sampling of tissues was supported by the SAC (Specialty Advisory Committee) on Histopathology, with two recommendations to College Council:
- the proposal should not be implemented without evaluating the benefits and any adverse effects of implementation in pilot sites
 - all consultant histopathologists should be given an opportunity to comment on the acceptability of this significant change in professional practice.
- 2.2 This change in practice would supersede The Royal College of Pathologists' *Codes of Practice for Pathology Departments* issued in 1989,³ which states: "The selection of tissue blocks for processing and examination is normally carried out by a histopathologist." This is currently the standard adopted by CPA (UK) Ltd when assessing cellular pathology departments for accreditation.
- 2.3 A substantial majority (more than 70%) of consultants supported the proposals enshrined in the *Working Party Report*,² in the knowledge that the recommendations would be subject to evaluation in pilot sites.

Accordingly, in November 2001, a Working Group approved by College Council was established. The first meeting was held in January 2002. The Group included a CPA (UK) Ltd nominee and three nominees from the Institute of Biomedical Science (IBMS), together with three representatives from The Royal College of Pathologists. A list of the Working Group members is given in Appendix A.

3 Background

- 3.1 The complexity and volume of histopathology workloads is increasing, but there is a persisting substantial shortage of consultants. At the time of writing, over 200 consultant histopathology posts are unfilled and the number of vacancies is predicted to increase further over the next few years, even though the specialist registrar training grade is expanding.⁴
- 3.2 Delegation to biomedical scientists of tasks carried out at specimen cut-up – specimen description, dissection, and sampling – is consistent with the concept of delegation to non-medical personnel of tasks that can be carried out by suitably trained, non-medically qualified individuals (e.g. nurse endoscopists, radiographers performing ultrasound examinations, etc). This is in keeping with the overall concept of 'Pathology Modernisation'⁵ and the principles of flexible working envisaged in the *NHS Plan*.⁶
- 3.3 Those consultant pathologists who opposed the recommendations of the original *Working Party Report* did so for two strikingly different reasons. Some insisted that specimen description, dissection and sampling was an entirely medical responsibility and should only be carried out by the pathologist issuing the final macroscopic and microscopic report on the specimen. Paradoxically, others felt that the detailed arrangements for supervision and audit entailing consultant preview and review of specimens recommended in the report were too onerous and restrictive.

- 3.4 Delegation of cut-up duties has been an established practice in some laboratories in the United Kingdom for many years. These laboratories have been denied CPA accreditation because they were seen to be contravening the code of practice of The Royal College of Pathologists as laid out in the 1989 document,³ even if laboratory practice in all other areas of activity satisfied CPA standards. It was therefore important to demonstrate that introduction of this radical change in practice could be shown to be acceptable to consultant pathologists by demonstrating benefits and a lack of serious drawbacks that might impinge on patient care as a result of impaired reporting.
- 3.5 Potential benefits envisaged included the release of consultant time for other activities such as microscopy, multidisciplinary team meetings, audit, continuing professional development, etc. Other tangential benefits might include closer team working between pathologists and biomedical scientists and increased job satisfaction for biomedical scientists, therefore improved recruitment and retention.
- 3.6 On the other hand, the likelihood of any adverse effects needed to be identified, such as difficulties in reporting and systematic errors in tumour staging due to incorrect sampling, inappropriate description and assessment of abnormalities. A further possible drawback might be the requirement for revisiting a specimen that had already been dissected, thus altering normal tissue relationships and precluding reconstruction.
- 3.7 The terms of reference were in keeping with paragraph 4.iii.f of the original *Working Party Report*² on the implementation of the extended role of biomedical scientists:
- to monitor and manage the implementation of the draft guidelines contained in the report for the involvement of biomedical scientists in the dissection of specimens and selection of tissues
 - to disseminate good practice
 - to act as a source of reference and advice during and after adoption of the guidelines.
- 3.8 Reporting of progress was accomplished by giving:
- a report to the College's SAC on Histopathology after each meeting
 - a progress report to the Institute of Biomedical Science
 - notes of the meetings to the Pathology Alliance.

4 The pilot study

The methodology is summarised in Appendix B.

- 4.1 CPA (UK) Ltd confirmed acceptance of the general principles of the extended role of biomedical scientists' participation in cut-up through Professor Malcolm, but were looking to the College to ensure that departments adopted appropriate standards for its implementation.
- 4.2 It was decided that 12 pilot sites would be representative. Significant numbers of departments were known to be already involving biomedical scientist staff in the cut-up process. As a first step towards identifying possible pilot sites, a short questionnaire was circulated to all histopathology departments in the UK in order to:

- ascertain the current status of any direct biomedical scientist participation in specimen cut-up
- invite an expression of interest in becoming a pilot site
- explore the scope and type of extended biomedical scientist role envisaged (general histopathology or subspecialty-related)
- obtain information about the training and assessment of biomedical scientists and the use of standard operating procedures (SOPs) in departments where the process was already established
- document the number (if any) of any medical trainees in the department.

The head of each department was asked to collate a reply on behalf of colleagues.

4.3 Potential pilot sites were asked to give a commitment to follow the general principles and working practices, training requirements and assessment, and quality assurance methodologies outlined in the original *Working Party Report*.² (Appendix 1 outlined the different categories of specimen complexity and Appendix 3 provided a suitable template for a logbook.) The questionnaire also asked if they would be willing to share any existing documentation. On the assumption that they were, it was planned to review documentation, collate it and issue some principles of good practice (in preparation – see paragraph 12.3).

4.4 32 responses to the questionnaire were received, including a number of sites that did not wish to participate in the pilot and others who expressed interest but did not have the resources to do so.

Six teaching hospitals and six district general hospitals were selected (listed in Appendix C), with reserves. The selection criteria were:

- satisfactory CPA accreditation status
- provision of a proper geographical balance
- an acceptable ratio of staff (both consultant and biomedical scientist) to workload
- a spread of sites to include simple and complex specimens as well as specialist areas
- a willingness to share training manuals and SOPs
- appropriate resources.

4.5 The sites were contacted and asked to confirm their willingness to participate and formally commence the pilot at the beginning of June 2002. The sites selected included a developing network of ten laboratories.

4.6 A meeting was held at The Royal College of Pathologists on 8 May 2002, attended by representatives from the selected sites. The aim of the meeting was to facilitate an exchange of experience, views and documentation between sites who were embarking on involvement of the extended role of biomedical scientists for the first time and those who already had considerable experience in the area. The programme included presentations on SOPs, cut-up and training, audit, the implications for histopathology of the Changing Workforce Programme and a presentation from the Executive Head of Strategy at the Institute of Biomedical Science. This was followed by discussions in breakout groups, with a summary of these discussions at a plenary session.

- 4.7 The Chair of the Group was also invited to become a member of the Changing Workforce Steering Group of the Avon, Somerset and Wiltshire Cancer Service Network piloting projects on the extended roles of cancer scientists (Pilot 13). This included a similar study of the extended role of biomedical scientists. The site participating in this national study was also invited to become an informal participant in the pilot, so ensuring an appropriate exchange of information between the projects.
- 4.8 In designating pilot sites, the Group was mindful of other relevant considerations. First, it recognised that it was not in any position to prevent departments that did not wish to participate in the pilot from embarking on or continuing with an extended role for biomedical scientists. Second, it was emphasised that any extended role for biomedical scientists in the cut-up process should not impinge adversely on the training of junior medical staff in histopathology, and that each individual consultant histopathologist should maintain the right to decide whether or not he or she would delegate such work to a biomedical scientist.
- 4.9 After accepting the invitation to participate in the pilot, each site was asked to submit their documentation for review and to report on progress to the group, after six months and then finally after one year (end of May 2003).

5 Initial review of documentation from pilot sites

- 5.1 This was carried out shortly after the pilot started.

Documentation from some of the sites showed evidence of a longstanding involvement of biomedical scientists in the cut-up process, with a very high standard of documentation including logbooks, a general summary of working practices, SOPs and glossaries of terminology used on request forms and in macroscopic description. Extremely good use of diagrams, line drawings, templates and proformas had been made and there were good examples of error logs and comprehensive audit forms. Other sites included a questionnaire seeking the views of departmental staff on biomedical scientist involvement. Only a minority of departments were using digital images but this approach was clearly very useful and commended. Some sites had designated tutors and named educational supervisors and had implemented formal training programmes.

- 5.2 Sites who were embarking on the extended role for the first time showed more limited documentation, which was in the early stages of development. Overall, although variable in quantity and quality, the documentation was of a high standard and firmly based on the original draft guidelines.²
- 5.3 Some sites were looking to the Group for guidance on a standard format of documentation, but the general view was that it would be inappropriate to try and impose a single format. It was felt that it would be preferable to specify minimum requirements by developing some initial principles of working to allow maximum flexibility, which would then be distributed to the pilot sites. These were:
- an overall description of the pilot and a general description of the approach to the cut-up
 - a schedule of specimen complexity
 - a biomedical scientist logbook
 - a specimen log

- a day book
- SOPs
- an audit protocol, including an error log
- a training manual and programme
- a training assessment protocol
- an educational resource
- a glossary of common terms used on request forms in specimen description.

5.4 Detailed recommendations were made regarding the format and content of SOPs, together with advice to use digital images to facilitate audit and specimen reconstruction if required.

5.5 Regular feedback meetings between biomedical scientist staff with their trainers was recommended, together with monitoring of progress. The use of preview and review was considered essential for complex specimens during the training process, but once competency had been gained, the normal departmental audit processes would suffice.

6 Review of progress of pilot sites

6.1 Pilot sites were asked to prepare a brief report for consideration at a meeting of the Working Group in December 2002. Sites were asked to report under the following headings:

- overall progress and management of the project
- examples of new SOPs
- audit and quality assurance results
- progress to more complex categories of specimen
- details and outcome of any bids for funding
- the effects of the implementation of the pilot on laboratory routine
- the development of training schemes and other educational resources
- problems encountered
- benefits
- comments on the good practice guidelines previously circulated.

6.2 The review identified substantial progress in most sites. Some had started afresh with category A and B specimens and others were embarking on categories C and D. Most sites were developing new SOPs and had instituted appropriate audit systems. No major problems were reported and a number of sites commented on increased job satisfaction for their biomedical scientist staff. Other sites commented on the restraints on progressing the project, associated with difficulties in funding replacements for biomedical scientists undergoing training and recruiting and retaining staff. One or two sites had found this a major barrier to progress.

7 Final report from pilot sites

7.1 Sites were asked to produce a final report on the full year's pilot according to a structured template questionnaire (Appendix D). These reports were collated and discussed by the Joint Working Group in June 2003.

- 7.2 The number of pathologists participating at each site was very variable, ranging from one to three pathologists in smaller departments, to as many as 15 in networked district general hospitals and teaching hospitals.
- 7.3 The vast majority of consultants at the pilot sites were strongly and enthusiastically in favour of the extended role of biomedical scientists in the cut-up process, and only one site reported a consultant who still felt very strongly that this was a task that should be in the hands of medical staff alone and remained to be convinced that the practice was safe and beneficial to the working practices of the department.
- 7.4 The number of biomedical scientists participating varied from one or two in small departments, to as many as ten in others.
- 7.5 Table 1 shows the categories of specimen complexity being handled by biomedical scientists before the start of the pilot and during the pilot itself, by number of sites.

Table 1 Number of sites at which biomedical scientists were handling different specimen categories*

Specimen category	Prior to start of pilot	During pilot
A-B only	2	1
A-C only	4	3
A-D only	2	4
A-E	3	3

* One pilot site was unable to furnish a complete final report.
One site moved from category A-B to category A-D and another moved from category A-C to category A-D.

- 7.6 More significantly, many sites reported an increase in the number of specimens processed by biomedical scientists within categories where there had already been some biomedical scientist input. Table 2 shows the categories of specimens in which there was a significant increase in the numbers handled by biomedical scientists during the pilot study.

Table 2 Categories in which biomedical scientists handled increased numbers of specimens

Specimen category	Number of pilot sites*
A-C	1
B-C	1
B-D	4
C-D	1
C-E	1
No change	3

* One pilot site was unable to furnish a complete final report

In addition to covering the range of general histopathology, two sites successfully developed the extended role for designated biomedical scientists in specific subspecialties (gynaecological and gastrointestinal). In gynaecological work, this included categories A, B and C.

7.7 The percentage of specimens in each category of complexity handled by biomedical scientists during the pilot varied in different sites, as shown in Table 3.

Table 3 Percentage range of specimens in different categories handled by biomedical scientists at different pilot sites*

Specimen category	Percentage of specimens
A†	From 30–100
B	From 10–20 to 100
C	From 10 through 40–50 up to 80–100
D	Few to 10–50
E**	5, 5, 23 and 55

* One pilot site was unable to furnish a complete final report.

† Some specialist departments did not progress beyond category A.

** Four sites were undertaking biomedical scientist cut-up in this category. One site introduced a new category F.

7.8 The majority of pilot sites had written a summary ‘working practices’ document (nine out of 12) and 50% of departments held regular minuted meetings to monitor the progress of the pilot. With only one or two exceptions, all the pilot sites had used the schedule of specimen complexity recommended in the original *Working Party Report*;² had evolved individual logbooks, specimen logbooks and used daybooks and had developed new SOPs. Most departments were using an error log and had audit protocols, and just over 50% were able to produce good examples of audit work.

7.9 Only three sites had been able to produce training manuals, although a small majority had written training programmes. Similarly, only three sites showed evidence of formal assessment procedures, although half the sites had produced local certificates of competence. Four sites had produced comprehensive and very helpful glossaries of terminology and about half the sites had named educational supervisors. A minority of sites had undertaken staff surveys.

8 Benefits

8.1 Extending the role of biomedical scientists delivers benefits to the consultant medical staff, biomedical scientist staff and service users, both in terms of efficiency of working and quality of service provided. In general, there was extremely positive enthusiasm for the extended role of biomedical scientists in the cut-up, with only very few consultant pathologists objecting to or raising reservations about this way of working and these mainly applied to very complex specimens only.

8.2 Consultants were very satisfied with the descriptions and sampling performed by biomedical scientists and there was no apparent detriment to the quality of macroscopic description, block selection or sections. Turnaround times were not affected.

8.3 Most sites wished to continue and expand the arrangements for the extended role of the biomedical scientist in cut-up. Specific areas highlighted were as follows.

- **Time saving**

This was significant, allowing more time for input into other activities such as multidisciplinary team (MDT) meetings, teaching and microscopy.

Whilst some sites had been unable to quantify time savings, reduced out-of-hours' reporting and a reduction in the backlog of unreported cases were commented on. Others were more specific. Time saved varied from site to site according to the numbers and categories of specimens involved. When categories B, C and D were handled, savings were 1–2 hours per consultant per day, with a weekly saving of medical time from 4–6 hours up to 15–20 hours. Sites experiencing major shortages of consultant staff during the pilot (one-third of the establishment at one network site) found the input of biomedical scientists in the cut-up room to be invaluable in maintaining delivery of the service at an acceptable level. Extra time saved by delegating category A specimens tended to be small, reflecting the fact that many specimens in this category were already being handled by biomedical staff at many of the pilot sites.

Against this, training of biomedical scientists for specimens of higher complexity (category C and upwards) ate into consultant time at some sites. Time gained by registrars and consultants released from the cut-up was partly taken up by teaching and audit of the new working practices, particularly at the start of training when intensive supervision was required.

- **Working relationships**

Daily contact between biomedical scientists and medical staff tended to increase and a number of sites commented that working relationships had improved.

It was felt that increased teamworking might lead in future to an enhanced role for biomedical scientists in presenting material (macroscopic description and digital images) at MDT meetings.

- **Working practices**

Some sites noted that use of cut-up facilities could be optimised as the cut-up schedule did not have to be arranged around the availability of pathologists. Ease of block orientation at embedding was frequently enhanced. Participation in the pilot provided the motivation for updating documentation.

The specimen cut-up involves assessment and interpretation of the gross appearances as well as appropriate sampling and the application of these conclusions by the reporting pathologist at microscopy. The reservations held by some consultants about the delegation of the cut-up process should be allayed by the application of the preview and review process, together with the use of a digital camera at the cut-up bench. The use of digital images to record gross appearances before and after dissection to demonstrate block sampling sites provides the pathologist with the relevant information when reporting the case.

- **Job satisfaction**

Participation in the cut-up was cited by at least one site as making the biomedical scientist role more attractive and was a positive factor in attracting an applicant to a vacant post in one department. There was overall agreement that job satisfaction was significantly increased by participation in the cut-up. Departments in which biomedical scientists are involved in the extended role have gained some prestige as a result of this.

9 Problems and constraints

9.1 Time and workforce resources

A number of sites suffered from trained staff leaving during the pilot, thus progress was delayed whilst new members of staff were trained.

At one district general hospital, a combination of staffing difficulties meant that progress was extremely limited to begin with, but nevertheless by the end of the pilot period some biomedical scientists were fully trained to carry out work on both category A and B specimens. A recurrent theme was the constraint resulting from a mismatch of workload to consultant and biomedical scientist staffing levels. It was difficult to find time for training, writing SOPs, completing other required paperwork and analysing the data gathered during the pilot for audit purposes. Slide review of every single case with the biomedical scientist who had trimmed the case was found to be very time-consuming and was not deemed necessary by most sites. The resource problem was exacerbated in those sites unable to obtain funding for temporary replacement of biomedical scientists who were seconded to cut-up training.

It will be important in future that proper resource is available to back-fill for biomedical scientist staff participating in the extended role in departments adopting the practice.

9.2 Training

Although the original recommendation was that consultant pathologists should act as trainers, there seems to be no reason whatsoever why biomedical scientists who are senior and experienced in the cut-up process, and particularly those who are competent in the more complex specimen categories, should not carry out training.

The training should be carried out in exactly the same way and with the same protocols and criteria as would be in place if there were a consultant trainer. Progression through categories of increasing complexity should depend on achievement of competence, rather than any other criteria such as seniority.

Currently, the detailed approach taken to training has varied at the different sites but flexibility should be maintained. In large departments, a biomedical scientist might have responsibility in one or two defined specialties, e.g. gynaecological and gastrointestinal pathology, whereas in a smaller department, an individual may have a role in numerous topographical areas cutting across a number of specialties. This is consistent with the approach being developed by the Institute of Biomedical Science's Histology Cut-up Training Group (which includes representation from The Royal College of Pathologists), which allows for modular training in specialist areas following some mandatory modules covering aspects of general training. The biomedical scientist role in the cut-up process may therefore vary in depth and breadth. An individual's level of competence may evolve with further training in additional modules, particularly if he or she moves to a new department.

It is likely to be very difficult for small departments in district general hospitals to identify sufficient resources to mount their own training programmes, so it will be important to utilise the expertise and experience of those who have already implemented this advanced role of biomedical scientists in the cut-up process and who have shown a willingness to be involved in such training. However, the development of a full training programme needs further discussion and is beyond the remit of the current Group. It is also essential that the training process is appropriately funded in all aspects, possibly through the Workforce Development Confederations.

It is proposed that the assessment of competence at the end of the training programme modules will involve external assessment and lead to a certificate of competence through examination. This is also under development by the IBMS Histology Cut-up Training Group.

10 Funding

10.1 The original intention was to obtain funding from the Department of Health to support the project via Professor M Richards (National Cancer Director). The bid was directed to two aspects:

- capital funding for digital cameras and image storage to record images of intact specimens and cut surfaces for review by histopathologists at microscopic reporting, and to enhance histopathological contributions to multidisciplinary team meetings
- to fund temporary recruitment of Grade 1 biomedical scientists to enable the release of more senior staff for training in the extended role.

10.2 Unfortunately, despite persistent efforts, no funding was forthcoming through this route. A second approach was made via 'Pathology Modernisation' to the Department of Health in June 2002, with a suggestion that a sum be made available to each site to support the pilot for a year to provide funding for locum cover and some administrative and clerical assistance. This approach was also unsuccessful.

10.3 As a result, it was suggested that the pilot sites might approach their local Workforce Development Confederation. Only a minority of sites were successful and only small amounts were obtained, either locally through Trusts, the Cancer Network, Workforce Development Confederations or the Local Delivery Plan. The monies were used in a variety of ways. They included the enhancement of biomedical scientists' salaries, either shared equally or as discretionary points to those training in cut-up, funding a new permanent Grade 1 biomedical scientist post or providing a digital camera and PC for use in the cut-up room. In the latter case, the camera has been used extensively for reporting and also very usefully for illustrating SOPs.

10.4 It will be essential in future to provide proper resources for training if the extended role of biomedical scientists is to be widely applied.

11 General comments

11.1 Review and preview

A significant number of pilot sites commented that it was both unnecessary and impractical to adhere inflexibly to this recommendation as laid out in the original *Working Party Report*.² A distinction should be drawn between training and practice.

For categories B and C, rigorous preview and review on every case is not necessary once the biomedical scientist has been trained and shown to be competent. Review and preview in categories D and E should also be at the discretion of the delegating pathologist, but is more likely to be routine.

11.2 Audit

Error logs and audit are built into departmental routine and the majority of pilot sites implemented a formal programme of audit of the process. The details varied from site to site. Some sites took the view that a properly kept error log and normal daily working practices were sufficient, relying on the fact that regular inspection of the error log and feedback from the reporting consultant would trigger a formal audit if there was a persistent source of error identified. Other departments systematically reviewed a percentage of cases described, dissected and sampled by biomedical scientists on a regular basis.

11.3 SOPs

There has been considerable discussion around the question as to whether or not standard template SOPs should be written, which could then undergo local modification to avoid departments having to re-invent the wheel. This was not considered to be a practical approach by the Group because of the time and effort involved, and the fact that many departments may well wish to make their own, quite radical modifications. It is suggested that departments who are embarking on this process for the first time should contact experienced sites and ask if they may use SOPs that have already been developed and shown to be applied successfully.

SOPs should include general guidance on how to approach the cut-up and be printed on a laminated A4 sheet for use in daily practice at the bench.

11.4 Flexibility of approach

Consultant pathologists and biomedical scientists should decide locally how far they wish to implement the extended role. However, it is imperative that individual consultant histopathologists retain the right to decide whether or not to delegate the role of specimen description, dissection and sampling and to what extent. Some laboratories may wish to limit this to the simpler categories of specimen. Others may wish to ensure that there is a cadre of biomedical scientists who are able to tackle specimens in any category including those in D and E.

In departments where specialist histopathology reporting is undertaken, it may be appropriate for the specialised histopathologist to form a team with individual biomedical scientists trained in the cut-up of particular specialist specimens. It is key that a flexible approach is adopted. The particular path that an individual biomedical scientist follows depends on a number of factors, including aptitude, partnership with particular consultant(s), other work pressures, numbers of medical pathologist trainees, etc.

Specimen categories should also not be regarded as immutable and individual departments may wish to make their own adjustments within the broad framework originally laid out.

11.5 Job title of biomedical scientists involved in the extended role

If implemented, the extended involvement of biomedical scientists in the cut-up process will represent a significant advance in their responsibilities. Although the question of job titles was raised informally by members in discussion, it was decided that this was clearly beyond the remit of the Group and was not considered further.

12 Conclusion

- 12.1 The pilot study has demonstrated that the delegation of specimen description, dissection and sampling (cut-up or trimming) to biomedical scientists can lead to tangible benefits to the working practices of a cellular pathology department. These include saving of medical time, which can be devoted to other professional activities, improved team working and the flexible use of cut-up facilities. This advance in the contribution of biomedical scientists to the cut-up process will lead to increased job satisfaction for biomedical scientists, with a potential for improving recruitment and retention.
- 12.2 Audit has shown no evidence that implementation of the practice leads to any detriment in the reporting of specimens by histopathologists.
- 12.3 It is recommended that the introduction of the extended role should be considered by all histopathology departments, following some principles of good practice. These are being developed based on those distributed to the pilot sites at the start of the project, in conjunction with the experience gained from the pilot.
- 12.4 The decision of whether or not to delegate this work to biomedical scientists must remain with the individual consultant histopathologist responsible for the case.
- 12.5 The extended role of biomedical scientists should be incorporated into the code of practice of The Royal College of Pathologists.
- 12.6 Rolling out the extended role will require significant investment in resources in order to facilitate training and education of biomedical staff, whilst allowing departments which are frequently hard-pressed because of staff shortages to continue to provide a timely and safe routine service. It is crucial that this requirement is acknowledged by those responsible for funding histopathology services if this initiative to extend the role of the biomedical scientist staff is to succeed.

APPENDIX A Members of the Joint Working Group on implementation of the extended role of biomedical scientists in specimen description, dissection and sampling

Dr Leo Horton (Chair)	RCPATH	Royal Berkshire Hospital, Reading
Mr Allan Currie	IBMS	Lancaster and Morecambe Bay
Professor Archie Malcolm	CPA (UK) Ltd	Royal Shrewsbury Hospital
Mr Ken Rae	IBMS	Royal Infirmary, Edinburgh
Dr Suzanne Rogers	RCPATH	Doncaster Royal Infirmary
Mr Ian Sturdge	IBMS	Northampton General Hospital (now John Radcliffe Hospital, Oxford)
Professor Michael Wells	RCPATH	University of Sheffield

APPENDIX B Summary of methodology

1. All Members and Fellows of The Royal College of Pathologists contacted for expressions of interest to become a pilot site via a questionnaire asking for details of current cut-up practice, posted on the College website on 1 February 2002. Returns to be made through the Head of Department.
2. Assessment of the 32 returned questionnaires to identify possible pilot sites.
3. Following review of questionnaires, invitation issued to become a pilot site. Six district general and six teaching hospitals confirmed as pilot sites.
4. Meeting at The Royal College of Pathologists in May 2002 to facilitate exchange of experience and views; two delegates from each site (one biomedical scientist and one consultant pathologist). Current documentation in use relating to extended role requested.
5. Pilot commenced, 1 June 2003.
6. Review of documentation from sites mid-June 2003 and distribution of principles of good practice working, based on the documentation received.
7. Review of progress of pilot sites, December 2002.
8. Final report from pilot sites, June 2003.
9. Final report from the Group, November 2003.

APPENDIX C Pilot sites and contacts

Teaching hospital sites

Hospital

Aberdeen
Belfast City
Manchester
Nottingham City
Pan-Birmingham Cellular Pathology Network
Sheffield

Contacts

Dr Peter Johnston
Dr Derek Allen
Dr Lorna McWilliam
Dr Jane Johnson
Dr Peter Colloby
Dr Simon Cross and Professor Michael Wells

Non-teaching district general hospital sites

Hospital

Crosshouse, Kilmarnock
Derbyshire Royal Infirmary
Lincoln County Hospital (Pathlinks)
Macclesfield
Northampton District General Hospital
Royal Hampshire County Hospital, Winchester

Contacts

Dr Alastair Milne
Dr Ivan Robinson
Dr Mark Ashton
Dr Cerys Burrows
Dr John Nottingham
Dr Bryan Green

- Catalogue of SOPs in use for each specimen category
(NB it is not intended that you should submit all SOPs)
- Error log
- Audit protocol
- An example of audit results
- Training manual
- Training programme
- Assessment manual
- Certificate of competence
- Statement summarising progress on training and assessment over pilot period
- Educational resource**
 - Laboratory minimum dataset
 - Glossary of terms
 - Named educational advisor
- Results of staff survey
- Benefits achieved (to include estimates of consultant and trainee time saved)
- Problems
- Funding to cover the project
- Comment on further development of the BMS extended role
- Other comments
- Summary report of pilot

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