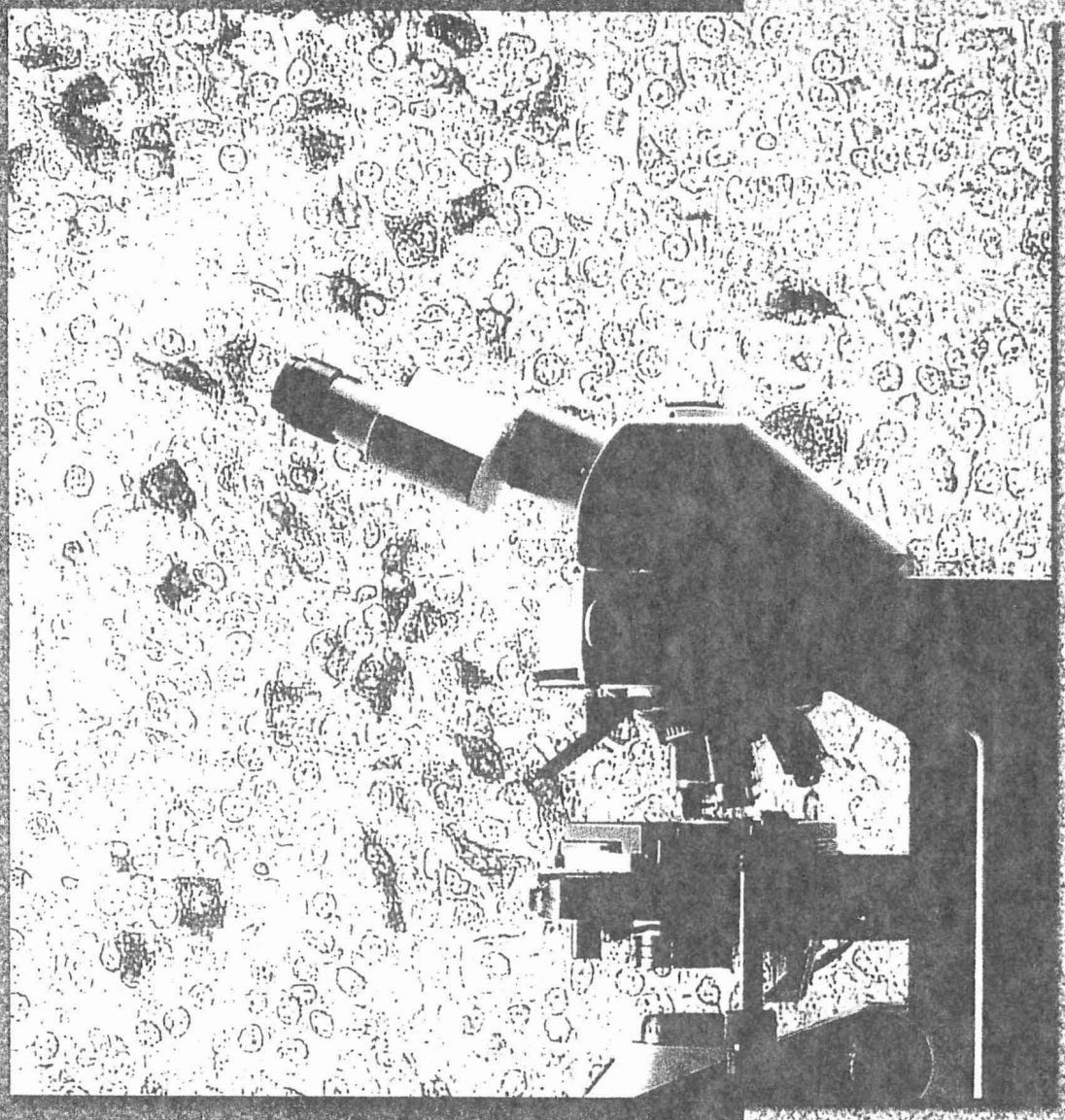
Hamad Medical Corporation

QUALITY CONTROL & QUALITY ASSURANCE IN ANATOMIC PATHOLOGY

2004



Quality Assurance In Division of Anatomic Pathology

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Quality Assurance in Anatomic Pathology

1. Preamble:

- Disciplines in Anatomic Pathology include the following:

(a) Surgical pathology,
(b) Cytopathology,
(c) Immunohistochemistry,
(d) Autopsy pathology,
(e) Forensic pathology,
(f) Electron microscopic pathology.

Each of these involve specimen accessioning; gross description, and tissue processing which in turn includes, embedding, cutting and staining and finaliy a cognitive process through which conclusions are made.
This last stage involves combination of gross and microscopic description on one hand correlated with clinical data and morphologic findings on the other. The summary of these is in a form of a report communicated to the clinician.

2. Objective of Quality Assurance

By application of QI and technological principles, the Anatomic Pathology division shall:

(a) Attempt to contribute to optimal improvement of the patients total person as early and economically as possible and by so doing.

(b) Assist others in the effective and efficient utilization of our various resources, including knowledge base and clinical resources. Therefore, the division of Anatomic Pathology shall provide the referring clinician with:

(i) Accurate
(ii) Timely,
(iii) Clinically relevant diagnostic report.

The above can only be achieved if diagnosis is made on optimal technical preparation.
In this regard, it must be emphasized that the credibility of the report is as important as its accuracy.

3. Purpose of Design of QA

Any quality assurance must be designed to evaluate each of the above requirements by:

(a) Detecting systematic deficiencies that militate against achievement of the stated objective.

(b) Continuously improving the process by which the objectives are achieved.

4. Scope of Application of this QA

Our quality assurance is for use within:

(i) The division of anatomic pathology.
(ii) The department of laboratory medicine and pathology.
(iii) Hamad Medical Corporation quality assurance activities.
(iv) Hopefully this will meet the requirements of an outside accrediting body such as Joint commission international and College of American Pathologist {CAP}, as it is our desire to be inspected and accredited by such a world renown body.

5. Personnel Requirements:

(a). Pathologists

(i) To be appointed to the post of a pathologist in the division of Anatomic pathology, a candidate must hold an MD, or MB, BS or a recognized equivalent and have undergone a residency training in Anatomic pathology and any of its sub-specialties and thereafter obtained a post graduate qualification in Anatomic pathology.

(ii) In pursuit of this objective, such a candidate shall hold one of the following qualifications: MRCPath. UK; Diplomte of American Board of Pathology; FRCP Canada and FRCP Australia.

(iii) It is recognized that other countries not represented here may have equivalent training programs but it may be difficult to ascertain the depth and the adequacy of such training especiallly where English language is not the medium of instruction in such a training program.

(iv) Therefore, to be even handed, any candidate aspiring to work as a consultant Pathologist at the Hamad Medical Corporation shall be required to hold any one of the above qualification.

(v) In the future when there is an Arab Board program in pathology such postgraduate qualification shall be assessed for its content, depth and adequacy as a qualification for appointment to the post of a consultant.

(vi) The level of consultant to which a candidate is appointed will be guided by the overall policy of the corporation on staff appointment.

5(b). Specialists and Senior Specialists {Registrars and Senior Registrars}

(i) Candidates who do not possess any of the qualifications stipulated under the section of the pathologist above, but hold a postgraduate qualification equivalent to PHd from other countries may be appointed to the posts of specialists or senior specialist depending on the years of experience and level of performance on locum period of no less than two months.

(ii) Such a candidate shall work under the supervision of the consutant pathologist who shall counter sign all reports originating from such a candidate.

5(c). Residents

Residents are those holders of MD, MB, BS or recognized equivalent who have been accepted in the training program of the Department of laboratory Medicine and Pathology.

5(d).Technical Staff

(i) All technical staff shall hold a B.Sc. in biomedical science or acceptable science subjects.

(ii) Must have completed a prescribed period of developeeship in laboratory medicine including anatomic pathology.

5:1. Technical Posts:

Supervisor.
Senior Technologist.
Technologist.
Technician.

- The responsibilities of each grade of staff will follow the provisions in the department's job description.
- Promotion from one post to another will be according to the provisions in the department's regulations for such technical staff promotions.

6. Actual indicators of Our Quality Assurance

The following paramenters need to be monitored in pursuit of the excellence required in our laboratory practice;

(a) Receipt and examination of specimen.
(b) Processing and production of adequately sectioned and stained slides.
(c) Arrival at diagnosis
(d) Communication of the results
(e) Systematic Reviews, CME & Proficiency Testing.

Receipt and examination of specimen.
Specimen Identification\Audit Trail\Acceptance.

(i) Specimens brought to the laboratory are to be accompanied by request forms.
One or two technical staff is scheduled on receiving each day. When the specimen boy arrives with the specimen, the technical staff on receiving duties would check the specimen book for proper entry and synchrony of details on the specimen container and those on the request forms.

(ii) If these details agree, then the staff would sign the specimen book.

(iii) Where specimen arrives from other sources without a logbook, similar details are checked on both the specimen container and the request forms.

7. Specimen Handling

The following data are checked.

(i) Date of biopsy: In some instances specimen are procured but left to stand in the operating theatre for some days before reaching the laboratory.The technical staff on receiving must report this to the supervisor who then calls the theatre supervisor to sort out the reason for the delay.

(ii) Name of the patient on the request form must agree with the name on the Specimen bottle.

(iii) Hospital number on the form must also agree with the number on the Specimen bottle.

(iv) Age, sex and nationality of the patient must be present on the request form.

(v) Site, number and nature of biopsy must be present on the request form. Clinical data have to be present on the request form.
This is one area where the clinicians have failed woefully. Over 80% of request forms do not contain adequate clinical data.
Often the residents, technical staff and the pathologist have to call the clinician for information.

(vi) Soiled request forms are promptly returned to the originating location and a note is made in the specimen status book.

(vii) When the specimen is returned and is now acceptable, a remark is entered in the specimen status book.

(viii) The receiving technical staff has the authority to return such samples but where in doubt the supervisor is contacted.

(ix) Where all details check out, the technical staff on receiving will enter the details of each case in the main surgical logbook. This entry will include assigning a surgical number, which will now be the main identifying number for that case.

(x) This number will be entered in the appropriate section of the request form and also written in red on the cover and the body of the container.

(xi) All specimens received the same day on one request form (one patient), are identified by one surgical number but each sample is sub-labeled numerically as number 1,2, and onwards.

(xii) Each block constituting a section bears this number and sub-labeled number.

(xiii) Where more than one section is taken additional identifying mark is written on the block in the form of alphabets starting from "A", "B" and onwards.

8. Gross Description

- The gross examination of the specimen is reflected in the surgical report and as a quality assurance indicator, the quality of this examination is based on the objective criteria for specimen examination.

- Small simple specimen requires less description than big or complicated specimens.

- Residents are instructed how to describe the specimen in simple English language identifying the specimen where possible.

- Consultants usually teach the art of gross description by doing several cases while the residents watch.

PROCEDURE:

(i) The person doing the gross will ensure that the specimen and details match those on the request form.

(ii) This is achieved in severeal ways, for example:,
By directly checking for synchrony of the names and the hospital numbers as well as the type of specimen as written on the form and the specimen container, by calling out the accession number (now known as the surgical no.) and watching the details on the specimen container while the technical staff reads out the name of patient and the type of tissue from the request form.
These details must agree before the specimen is considered a match and then described.

(iii) All specimens are identified as organ or part of organ and measured in three dimensions in most cases.

(iv) A two-dimension measurement can be obtained where the specimen is small.

(v) An approximate measurement is made in very small, minute and fragmented Samples.

(vi) It is the responsibility of the person doing the gross to examine the specimen thoroughly and take adequate representative sections.

(vii) After the sections are obtained and put in appropriate cassettes bearing the same Surgical number as on the request form and the container, the technical staff assisting in the gross cutting takes full responsibility to close the cassettes and put them in 10% buffered formalin preparatory to transerring to the automatic Processor.

(viii) Masses such as thyroid nodules, ovarian, testicular or solid tumor masses are also weighed.

(ix) Protocols for gross description of certain specimen such as mastectomy, and Colectomy specimen is available.

(x) At the end of the gross description, the residents are required to read through all the description to ascertain that the writer has taken down the dictations accurately.

(xi) Effort is being made to procure Dictaphones at the gross cutting table. When this happens, the residents or the pathologist will have to read over the typed gross description and make appropriate corrections.

9. Processing, Procedure Manuals and Instrument Maintenance

(i) All samples are transferred to the automatic processor and programmed for 16 hours to be ready for embedding the next day at 7am.

(ii) Tissues that require further fixation may be processed but with a delay mode in the formal alcohol. This is usually achieved by using another processor.

(iii) After embedding, the blocks are distributed to the technical staff for trimming and sectioning.

(iv) Our routine H&E stain is performed automatically by the automatic Stainer.
This machine has its work manual and a technical staff is assigned to ensure that all levels of the reagents are appropriate.

(v) Reagents are changed weekly and \ or when necessay with freshly prepared reagents.

(vi) A technologist is assigned to recheck the pH of all freshly prepared solutions such as bulk formalin.

10. Special Stains:

(i) Some special stains such as
(a) PAS and PAS\AL.B
(b) Reticulin,
(c) Masson Trichrome,
(d) Perls; are automatically performed on certain specimen where appropriate, such as skin, gastrointestinal tract, liver and testicular biopsies.

(ii) A host of other special stains are performed when and where necessary.

(iii) Each of these stains is done with control tissues on the same slide as the test or the patient's sample.

(iv) A special stain logbook is maintained. This logbook should contain:

(a) Type of stains performed.
(b) Date of request.
(c) Name of the requesting pathologist.
(d) Name of the technical staff who performed the stain.
(e) Name of the senior technical staff who checked the slides.
(f) Date the slides are passed to the pathologist.

(v) Details of each staining procedure are given in the appropriate procedural Manual.

11. Record Keeping.

Record keeping is important in promoting consistently high quality technical preparations in Anatomic Pathology.

- Special records shall contain:

(i) Number of specimen processed.
(ii) Number of blocks and slides prepared.
(iii) Type and number of special stains.
(iv) Specimens rejected,
(v) Quality of slides and stains produced. How many re-cuts?
(vi) Blocks are stored for as long as possible not less than 20 years.
(vii) Histopathology slides are stored for between 7 and 10 years depending on the availability of storage space
(viii) Besides specimen preserved for the museum, all other specimens are discarded after a minimum period of one month from the date of sign out.

12. Pathologic Diagnosis

a) It is the sole responsibility of the pathologist to render a clear, accurate and understandable diagnosis.

b) Though the basic training in Anatomic Pathology and success at the board or college examinations are the minimum requirement, these may not guarantee acccuracy at all times.

c) Reviewof large volumes of surgical material as well as peer reviews go a long way to achieve the desired competence.

d) Adequacy of diagnostic information is a critical measure of our professional responsibility as surgical pathologists: Not only must the information be factually accurate and reported in a timely fashion but it should be clinically relevant and contribute to patient care.

e) The sign out pathologist must ensure the precision, uniformity, consistency and accuracy of the descriptive information contained within the report. In order to achieve high quality in our surgical pathology services, the following measures are taken:

(i) All malignant cases are to be signed out by two patholgists and the typed report carries a red label "Cancer Action Required".

(ii) Intra-operative consultation is an area of surgical pathology practices that under scores the medical responsibility of the pathologist. Comparison of frozen section and final diagnosis is a cornestone of quality assurance in surgical pathology.

In pursuit of accuracy and quality assurance, all malignant cases at frozen sections are to be signed out by two pathologists.

(iii) A pathologist is assigned to review all frozen sections on a monthly schedule. By this way, all pathologists will rotate through the task of reviewing and comparing the final and frozen section diagnosis.

- This does not eliminate the monthly summary of the comparison of permanent section diagnosis with the frozen section diagnosis carried out by the supervisor.

(iv) Between 4 to 5% of the total surgical cases each year will be reviewed. For our surgical load at the moment, this will amount to about 480 to 500 cases per year and 10 to 12 cases per week.
The above is achieved by review of every 20th case of the surgical material each month by a pathologist other than the sign out pathologist. The review will include transcription and typographic accuracy.

(v) Appendices, products of conception, epidermal inclusion cysts and lipomas will not be included in this review.
Where any of the above appears as the 20th case, the next case is chosen for review.
The supervisor is responsible for selecting the review cases.

(vi) Where there is difference of opinion on any case, an inter-institutional consulation may be sort.
For tumors in particular, referral to Imperial Cancer Institute London, Arms Forces Institute of Pathology Washington or direct consultation to a known authority in the area of the lesion will be carried out.

(vii) A pathologist other than original sign out pathologist will carry ou review of cases of neoplasms of breast, colon and stomach which constitute the largest number of big and complicated specimen received in our practice.
The review will include gross description as well as microscopy and the final diagnosis.
Transcription and typographic accuracy must be checked in this review. This review is additional to that mentioned above.

13. **Turn around time (Timely report)**

This should state that the turnaround time is 48 hours unless a specimen arrive in a weekend or need special studies.

a) The working hours at the HMC are from 7am. To 3pm. Sunday through Thursday.

b) Specimen received on a given day are accessioned, described either by the resident under supervision or by the pathologist and loaded for over-night processing.

c) The next day that being the second day of the specimen in the laboratory, the tissue is embedded, cut and stained by the technical staff.

d) This means that at best the first batch of specimen for microscopic description and diagnosis may be ready between 11am and 12 noon.

e) Owing to other responsibilities of the residents and the pathologist and the 3p.m closing time, most of the cases may not be reported on that same day.

f) Therefore microscopy and diagnosis of the specimen are made late on the second and on the third day.

g) Those requiring further fixation, such as bowel or big speciments, will have an additional one-day delay.

h) The cases that require special stains may not be ready in time for composite microscopy on the same day. As a result of these the following must be our goal.

14. General Goal for timely reporting

(a) Seventy-five to 80 % of all cases in a given day must have their reports typed on the third day depending on the work-load of the secretaries. Those finished reports are despatched the same day.

(b) All other cases should be reported on the 4th and latest the 5th day of the accession.

(c) Cases for immunoperoxidase and immunofluorescence should be reported on the 5th or latest the 6th day but where possible a preliminary report is relayed verbally to the clinician by the pathologist.

(d) Bone tissues, which require decalcification, must be completed by the 6th or latest the 7th day where there is an intervening weekend. To achieve this objective, bone tissue must be cut into small sizes to enable quick decalcification.

(e) Urgent cases must be marked with the word "urgent" on the request form if possible in red ink.
The clinician shall call the pathologist to discuss the possibility of an accelerated processing.
Depending on how urgent these cases are, a 5-hour processing can be done on the new processor.

(f) Clinicians are encouraged to phone the secretaries who may relay the results of ONLY signed reports on the phone.
Ascertaining the identity of the clinician on the other end of the phone has remained a concern but so far, no problem has arisen from such a practice. Computerization of the H.M.C., which is now in progress, will eliminate this problem.

(g) A previous biopsy relevant to a current biopsy shall be reviewed by the current sign out pathologist and such a review shall form part of the current report.

(h) Where a significant information relevant to patient care and which could have led to a different diagnosis were omitted in the previous report, the current sign out pathologist shall inform the sign out pathologist of the reviewed case who shall then review the case and the report.
If a difference of opinion exists a third pathologist shall refere the case or an inter-institutional consultation shall be requested.

(i) Where such a relevant omission is established an amendment of addendum report shall be issued.

15. Monitoring Turn around time & Documentation in Histopathology

Policy

- All laboratory reports must be released and signed out in an appropriate and timely manner. Conductive in order to achieve high standard of patients care.

- Turn around time will be counted from the arriving time of any specimen to the laboratory up to the time that report is released.

Histopathology

- At least 75 to 80 % of routine cases must be signed out within 3 working days.

- A routine case if defined as a Surgical Pathology specimen that requires hematoxytin and eosin (HE) stain only for a diagnosis to be rendered.

Method

- Every 10 Surgical Pathology case / month must be manually reviewed for turn around time (time from arrival of specimen to the lab to the time report is released).

- The case must meet the criteria for routine specimen as defined before.

- If the criteria are met, the turn around time and the consultant pathologist name will be recorde l.

- If the case does not meet the criteria, the subsequent accession number will be used etc., until a case meeting the requirements is identified.

- These records are kept with the Supervisor.

- Other cases should be reported on the 4^{th} and latest 5^{th} day of the accession.

- Cases for immunoperoxidase and immunofluorescence should be reported the 5th latest 7th day (**but where possible a preliminary report is relayed verbally to the clinician by the pathologist).**

- Bone tissues, which require decalcification must be completed by the 6th or latest the 7th day.

- To achieve this objective, bone tissue must be cut into small sizes to enable quick decalcification.

- For additional decalcification or big bone the report will be released from 7-10 days.

- Urgent cases are labeled **as urgent** on the request form.

- The clinician shall call the pathologist for accelerating the process of the specimen.

- Depending on urgency of the case a five(5)-hour processing will be done. So, the report will be released within one day.

- Muscle for immunohistochemistry needs 10 days for reporting.

16. Complaints and redress

Despite all genuine efforts to provide timely, accurate and clinically relevant reports, there may still be some lapses or some dissatisfied clinician. The procedure for sorting these cases out is simple and straight.

a) The clinician should call or visit the sign out pathologist and review the case with him or her.

b) Where the clinician is not satisfied, he can inform the sign out pathologist of his wish to request for a second opinion either within the division or outside the HMC.

c) In either case, the clinician should collect a second opinion form from the clerks and complete the relevant details.

d) The sign out pathologist should hand over the cases with the request form to any of the pathologist unless the clinician wishes a particular pathologist to review the case. In that situation, the case is handed over to the clinician's choice.

e) The second opinion pathologist shall give his opinion in writing and such a report shall be made known to the sign out pathologist.

f) Copies of the second opinion report shall be attached to the original report and filed in the division and the patient's file in the medical records. A copy shall be given to the requesting clinician.

g) No pathologist shall review and give a second opinion on his colleague's cases without a formal request for second opinion as in (iii and iv) above.

17. Continuing Medical Education and Proficiency Testing

Pathologists and the senior technical staff have the privilege to attend conferences in any part of the world. Popular ones include ASCP, CAP, IAP and Royal College Meetings in UK.

- Workshops and Seminars in these meetings are very instructive besides providing good teaching materials.

- The division is enrolled in the PIP (Performance Improvement Program) from College of American Pathologists (CAP)

- This program has been on for nine years and performance has remained at over 85% average score on the diagnosis and questions.

- The division also participates periodically or enrolled for the entire year in the following:

    - ASCP Teleconference
    - ASCP Check Path.
    - ASCP Check Sample
    - ASCP Tech Sample.
    - ASCP inter-laboratory cervico-vaginal cytology proficiency tests
    - Autospy Pathology Apex Program (CAP).
    - California Tumour tissue registry slides.
    - NE-QAS Immunohistochemistry

- The following other educational activities form part of the CME program of the division.
- Slides and case reviews are carried out with the clinicians when requested.
- Weekly slides and case reviews with the residents are carried out.
- Monthly surgical-pathologic conference with the surgeons and the gynecologist are part of the division's educational program.
- Regular slides and case reviews with the neurosurgeons.
- Regular slides and case reviews with the nephrologists.

18. Responsibilities

(a) The head of division is responsible for QA in the Division.

(b) However, this responsibility needs to be shared in order to achieve the desired goal.

(c) The heads of sections and each consultant shall bear full responsibility for QA in their professional practice following the guidelines above.

(d) The measures stated above shall enable the head of division to co-ordinate the QA in the division.

(e) The supervisor shall be responsible for all QA in all technical activities and shall ensure the quality of all diagnostic materials reaching the pathologists.

(f) This responsibility may be delegated to the senior technologist or any other Technologist as the supervisor may wish.

(g) The supervisor shall also be responsible for assembling all cases that require reviews for QA purposes according to the provisions in this QA document.

Practical Aspects

a) Laboratory manual, which contains instructions for proper collection of Specimen, preparation of slides and preferred staining procedures, is available to all technical staff.

b) Staining Reagents are checked .

c) Where any specimen is rejected, the requesting physician is notified either by telephone or written notification by the technologist in-charge. Such a notification either by phone or written is documented in the specimen status Logbook.

d) Instrument Manual is available. Instruments are serviced regularly.

e) Records of number of cases, slides prepared and number stained are kept.

f) Monthly Statistics are produced by the technologist in-charge; checked and signed by the pathologist in-charge of the section.

Specimen Rejection

The histopathology specimens are rejected because of the following:

- Inadequate fixation.
- No fixative
- Wrong patient name
- Wrong patient file
- Improper container
- Incorrect labelling of specimen type in the container and request form.
- No stamp of the doctor.

Delayed Test

- Delayed cases which will not be reported within the reported turn around Time. The pysician will be called in order not to expect a report.

References

(1) A copy of Recommendations on quality control and quality assurance in Anatomic pathology.

This document was prepared by ad-hoc committee of the Association of Directors of Anatomic pathology chaired by Dr. Juan Rosai from American Journal of Surgical Pathology 15.1007-1009, 1991.

(2) Quality improvement manual
Anatomic pathology
College of American Pathologist

(3) Laboratory Histopathology
A Complete Reference
Edited by:
Anthony E woods
Roy C Ellis

(4) Histo technology
A self Instructrional text
Freidal Carson

Appendix E

Recommendations on quality control and quality assurance in anatomic pathology

(This document was prepared by the ad-hoc Committee of the Association of Directors of Anatomic and Surgical Pathology chaired by Dr. Juan Rosai. From Am J Surg Pathol 15:1007-1009, 1991.)

The Association of Directors of Anatomic and Surgical Pathology ("the Association") has prepared the following recommendations regarding Quality Control and Quality Assurance (QC/QA) in surgical pathology and autopsy pathology. This document does not include QC/QA issues as they apply to cytopathology and to specialized anatomic pathology laboratories such as immunohistochemistry or electron microscopy.

The Association wishes to emphasize that the recommendations contained in this document were made taking into consideration the structure, responsibilities, and needs of academic anatomic pathology laboratories that have an active pathology residency or fellowship program. It also wishes to point out that they are to be viewed as being of a generic nature and suitable for modification depending on the specific circumstances of the individual laboratories and the regulations of the respective institutions.

1. It is recommended that each Department of Pathology prepare a written QC/QA plan for surgical pathology and autopsy pathology specifically devised for that Department and the respective institution. This document should be updated on a yearly basis. It should be part of the Departmental QC/QA program and, as such, should be structured along the lines of the JCAHO ten-step monitoring process as detailed in The Accreditation Manual for Hospitals.
2. It is recommended that each Department establish a QC/QA Committee. The Committee should be appointed by the Chairman on a yearly basis. It should meet monthly, be chaired by a senior pathologist, and have as members representatives from the principal sections or divisions of the Department.
3. It is recommended that the QC/QA plan for surgical pathology and autopsy pathology include the components ("indicators") listed below. The first of these indicators is of a prospective nature-i.e., to be carried out before the final report is issued. All others are of a retrospective nature-i.e., to be carried out in a regular fashion independently from the timing of the final report and usually after this has taken place.

Intradepartmental consultation

This function is to be carried out through one or both of the following mechanisms:

1. Review of selected cases by the diagnostic staff as a group, either through a periodic session ("consensus conference") or a written consultation form. The fact that this exercise has taken place should be indicated in the pathology report.
2. Review of selected cases by a second staff pathologist ("consultant"). For those cases in which the entire case is evaluated by the consultant, it is recommended that both pathologists sign the report; for cases in which only a portion of the cases has been reviewed, it is recommended that a note to that effect be added to the report.

Intraoperative consultation

It is recommended that all cases in which an intraoperative consultation has been carried out be

reviewed on a regular (i.e., weekly, monthly) basis and be placed according to their final disposition in one of the following categories:

1. Agreement
2. Deferral-Appropriate
3. Deferral-Inappropriate
4. Disagreement-Minor
5. Disagreement-Major

For all cases in the "Disagreement-Major" and "Deferral-Inappropriate" categories, it is recommended that the reason for this occurrence be categorized as one of the following:

1. Interpretation
2. Block sampling
3. Specimen sampling
4. Technical inadequacy
5. Lack of essential clinical or pathologic data
6. Other (indicate)

It is further recommended that the medical consequence of the cases included in the "Disagreement-Major" or "Deferral-Inappropriate" categories be listed as one of the following:

1. None
2. Minor/questionable
3. Major

The Association estimates that an acceptable accuracy threshold for intraoperative consultations (as measured by the number of "Disagreement-Major" cases and determined per case) is 3%; an acceptable threshold for "Deferred-Inappropriate" cases is 10%.

The Association believes that it is important for each laboratory to establish its own time thresholds for intraoperative consultation, using as a standard unit the time threshold for the performance of a "basic" frozen section, as defined by a case with a single block, with no other cases being performed by the intraoperative consultation team at the same time.

Random case review

It is recommended that the following cases be reviewed on a random basis:

1. Surgical pathology: 1% or 25/month, whichever is larger
2. Autopsy: 10% or two/month, whichever is larger

The review on the randomly selected cases should include all material related to them, including final report, microscopic slides, turnaround time, and special procedures, if any.

Clinical indicators

It is recommended that a Clinical Indicator be selected on a regular basis on the basis of organ/lesion (i.e., carcinoma of endometrium) or procedure (i.e., TUR), and that *all* cases belonging to that indicator in a given period be evaluated by checking them against a list of predetermined criteria. This activity should be rotated among surgical pathology and autopsy cases.

Intradepartmental and interdepartmental conferences

For all cases presented at intradepartmental and interdepartmental conferences, it is recommended that the diagnosis as listed in the final report be compared with that made by the presenter when reviewing the case for the conference.

Interinstitutional review

For cases in which an outside review has been carried out at the request of the patient, the clinician or other institution, or as part of a cooperative study, it is recommended that the diagnosis as listed in the final report be compared with that made at the outside institution. The Association estimates that an acceptable threshold for clinically significant disagreement following arbitration is 2%, as applied to those cases in which it is decided that the correct interpretation is that from the outside institution.

Surgical pathology turnaround times

The Association believes that the following are acceptable turnaround times for surgical pathology reports, as measured in working days from the time the specimen is accessioned in the laboratory to the time the verbal report is available or the final report is signed.

Type of specimen	*Verbal report*	*Written report*
Rushes	1	2
Biopsies	2	3
Surgicals	2	3

Extra time should be allowed for the following procedures, to be measured in days from the time the procedure is initiated or ordered and independently from each other:

1. Overnight fixation, 1
2. Decalcification, 1
3. Resubmission, 1-2
4. Recuts, 1
5. Immunocytochemistry, 1-2
6. Electron microscopy, 2-3
7. Intradepartmental consultation, 1

The Association estimates that an acceptable threshold for these turnaround times is 80%.

Autopsy turnaround time

The Association believes that the following are acceptable turnaround times for autopsy reports, as measured in working days:

1. Provisional report: 1
2. Final report: 30

The Association estimates that an acceptable threshold for the provisional report is 90%; acceptable threshold for the final report is 80%.

Specimen adequacy

It is recommended that the adequacy of submission of specimens to the laboratory be monitored in terms of fixation, safety requirements, and proper identification.

Lost specimen

This is defined as the irretrievable loss of a surgical pathology specimen that has occurred after the case has been accessioned in the laboratory and that prevents an adequate pathologic examination of that specimen. The Association estimates that an acceptable threshold for lost specimens is one in 3,000 cases.

Histology QC

It is recommended that the QC related to the histology lab include:

1. Record of time of delivery of slides
2. Evaluation of slide quality as performed by the pathologist
3. Evaluation of tissue adequacy as performed by the histotechnologist

Isolated event report

It is recommended that isolated events not contemplated in any of the foregoing categories be documented through the issuing of an "Isolated Event Report." All such reports should be kept in a permanent log.

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