

Focus



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An occasional update commissioned by the College. The views expressed are those of the author.

Histopathology and cytology specimens - what should you send, and to whom?

This Focus article is based on the joint guidance document of The Royal College of Pathologists (RCPATH) and The Royal College of Ophthalmologists (RCOphth) on referral of ophthalmic pathology specimens¹. It contains the recommendations for ophthalmologists on when to send tissue removed during procedures for histopathological assessment in order to avoid delayed or missed diagnosis of disease. It also recommends which pathologists to send specimens to in order to ensure consistent, high quality and accurate diagnosis. The document addresses submission of histopathology and cytology specimens, but not specimens sent for other purposes such as microbiology.

The guidance is not intended to be prescriptive but to act as an aid. Referring ophthalmologists should continue to exercise discretion based on the individual clinical presentations of individual patients. Where there is uncertainty, discussion with a pathologist, preferably before tissue has been removed, is strongly recommended.

Background

The referral guidelines for adult ocular oncology were amended in October 2009 and are available on the RCOphth website². Alongside the oncology service, a national ophthalmic pathology service was set up in Liverpool, London, Manchester and Sheffield by the National Commissioning Group. These centres form the National Specialist Ophthalmic Pathology Service (NSOPS). As NSOPS is centrally funded, there is no charge to NHS trusts in England for using this service.

Who should report ophthalmic pathology specimens?

Information on the reporting of ophthalmic pathology specimens is found in a guidance document written by RCPATH in collaboration with RCOphth⁴. In brief, it states that pathologists reporting ophthalmic pathology specimens should participate in an appropriate external quality assessment (EQA) scheme. Pathologists reporting ophthalmic pathology specimens should be encouraged to participate in the meeting of the British Association for Ophthalmic Pathology (BAOP), where the results of the National EQA scheme are discussed. A list of BAOP

members and details of the NSOPS laboratories are available on the EyePath UK website⁴:

It is good practice for histopathology specimens of any sort to be reported by a pathologist with expertise in the area concerned⁵. Specialist reporting also facilitates training opportunities for histopathology trainees who wish to develop an interest in the field.

It is also appropriate for specimens of tissues adjacent to the eye to be sent to a pathologist in another relevant subspecialty of pathology, such as dermatopathology.

What should the ophthalmologist send?

1. Small lid biopsy

All tissue should be sent for histopathological examination EXCEPT:

Chalazion: In a patient under 40 years of age with an otherwise typical chalazion it is acceptable to discard the first two samples. The second recurrence (i.e. third sample) should be sent. In a patient over 40 with otherwise typical chalazion, it is acceptable to discard the first sample. The first recurrence should be sent.

Blepharoplasty: Excess skin removed for blepharoplasty can be discarded unless there is any clinical abnormality.

Other cosmetic procedures e.g. lid lowering, tightening etc. If tissue is removed it can be discarded unless there is any clinical abnormality.

2. Full thickness lid resection

All tissue should be sent for histopathological examination EXCEPT:

Ectropion/entropion repairs: These excisions should only be submitted if there is any evident clinical abnormality.

3. Corneal specimens and conjunctival biopsies (including caruncle, pterygium and pinguecula)

These should all be sent for histopathological examination.

4. Trabecular meshwork

These can be discarded.

5. Lens

An intact lens removed in intracapsular cataract extraction may be sent for histopathological examination.

6. Iris, ciliary body & choroid

These should all be sent for histopathological examination with the exception of peripheral iridectomy tissue from glaucoma or cataract surgery.

7. Vitreous

This fluid should be sent in any case in which there is a suspicion of inflammatory disease (after bacteriological samples have been taken). Similarly if malignancy (e.g. lymphoid infiltration) is suspected fluid must also be submitted for histopathology.

Histological examination is not appropriate for removal of intravitreal blood or vitreous opacities such as asteroid hyalosis.

8. Epiretinal membrane

These should all be sent for histopathological examination in centres where there is a research interest.

9. Subretinal membranes

Excisions of disciform scars are of research and teaching interest only.

10. Eviscerations and enucleations

These should all be sent for histopathological examination. There is a very small but appreciable risk of a blind eye with opaque media harbouring occult malignancy^{6,7}.

11. Orbital biopsies

These should all be sent for histopathological examination EXCEPT:
Normal soft tissues removed during orbital decompression and squint surgery.

12. Lacrimal gland excision/biopsy and lacrimal sac excision

These samples should all be sent for histopathological examination.

13. Orbital exenteration specimens

These should all be sent for histopathological examination.

14. Cytology

Impression cytology of the conjunctiva and cornea and fine needle aspiration cytology of periocular or intraocular masses should all be sent for histopathological/cytological examination.

15. Other biopsies

Any material taken for the purpose of diagnosis (e.g. aqueous tap, temporal artery biopsy) should be submitted for histopathological/cytological examination. Temporal arteries need not necessarily be submitted to an ophthalmic pathologist. If ophthalmologists are uncertain of whether or not to submit a tissue, they are encouraged to ask their local pathologist or an NSOPS ophthalmic pathologist.

Research: Samples of ocular tissue may be required for

research purposes. In such circumstances where the specimen is required both for diagnostic and research purposes, it is advisable for the ophthalmologist to seek advice from the pathologist involved. This will help ensure an adequate tissue sample is taken and it may be best for the pathologist to divide and section the specimen before processing.

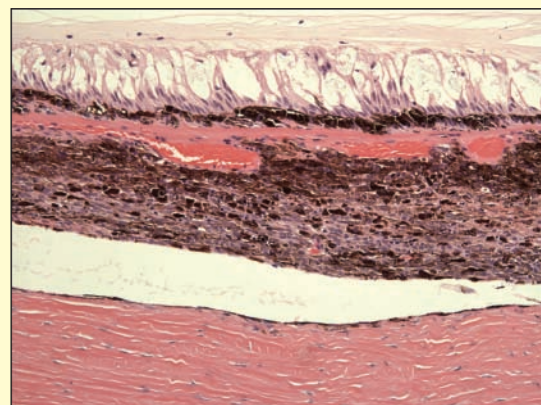
Practical issues from a pathologist's point of view

Communication: Communication with the laboratory is essential if the clinician is unsure of how to handle a particular specimen, or needs a pathology opinion urgently. Specimen processing for histology and cytology takes time, although it is possible to speed up processing in urgent cases, the submitted material may suffer artefact, hampering the diagnostic process.

Request forms: Request forms must be completed fully. Incomplete forms along with their associated specimens may be returned to the referring clinician for completion resulting in delay.

Rapid processing of specimens: Many histopathology laboratories provide a service for either intraoperative diagnosis (frozen section) or rapid paraffin processing (e.g. for delayed reconstruction). These services have local variation in availability, but in general may be arranged by prior discussion between clinician and laboratory. As rapid processing services are very labour intensive for any laboratory, they should only be requested when appropriate.

Fixation and containers: It is appropriate to fix nearly all specimens in 10% neutral buffered formalin. The volume of fixative (and specimen pot) should be appropriate to the size of specimen. For tiny biopsies (e.g. retina) it may be appropriate to place the specimen and formalin within a smaller receptacle than the usual pot (e.g. an Eppendorf tube). Certain specimens may be submitted fresh (frozen section and some cytology specimens) but this must be by prior arrangement with the laboratory. As with specimen request forms, patient and specimen details should be completed on each specimen pot submitted.



*Dr Caroline Thaug and Dr Michael Wells,
Consultant Pathologists on behalf of
The National Society of Ophthalmic Pathologists.*

*Mr Bernard YP Chang,
Honorary Secretary & Ophthalmic representative (on NSOPS) of
The Royal College of Ophthalmologists*

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