

Handling of Histological Samples

Specimen Handling

Samples for routine Histological examination should be placed into 10% formalin and sent to the laboratory with the next courier.

Samples for Immunofluorescence, frozen sectioning or cytology must **NOT** be placed in formalin.

Routine histology requests

Immediately place each specimen in a tightly secured, leak-proof container with 10% neutral buffered formalin. Do **NOT** allow the specimen to dry out.

For optimal sample fixation, the formalin volume to specimen ratio should be 10:1. Best clinical practice is to use a separate container for each specimen.

Do **NOT** crush or stretch the specimen with forceps or other instruments.

Ensure that you use the correct container size; do not force a large specimen into a small container as this will deform the specimen and reduce the rate of fixation and may affect diagnosis.

Specimen labelling and completion of request forms is covered earlier in the leaflet "Requesting Specimen Analysis".

Histology requests for specific tissue types

Breast core biopsies

These must be immediately placed in formalin pots, to preserve both the tissue integrity and ER, PR and HER-2 receptors. These core biopsies must be fixed for at least 6 hours before they can be processed, again to ensure optimal expression of hormonal receptors.



Breast wide local excisions and mastectomies

These must be fixed in formalin immediately to ensure that tumour tissue is fixed properly and its assessment (including hormonal receptors) is not compromised.

If these cannot be sent to the laboratory immediately, it is advisable that formalin is injected around the tumour area as this has been found to improve fixation and reduce tissue autolysis.

When specimens x-rays are taken please send these with the sample for correlation to avoid potential delays in the assessment of these specimens.

Skin excision for malignancies

It is preferred that skin excisions for malignancies are orientated by placing a suture or a double surgical nick on the specimen, stating its location (e.g. 12 o'clock). This makes it possible for the pathologist to measure precise peripheral margins as well as the deep margin. This information should be provided on the request form.

Colectomies and resections of small intestine

These specimens must be fixed in formalin immediately and sent to the Laboratory for proper handling. The specimens may need to be inked and opened partially or completely. This ensures the penetration of formalin into tumour tissue from both the mucosal and serosal surfaces.

For further information please contact us on:

01923 233 299

info@cellularpathologyservices.co.uk

www.cellularpathologyservices.co.uk

Unit 12, Orbital 25 Business Park, Dwight Road, Tolpits Lane, WATFORD, Hertfordshire. WD18 9DA

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Lymph node

Do not handle or palpate the node. Nothing of value will be learnt from such examination and may distort the architecture to an extent that makes subsequent histological interpretation very difficult or impossible.

As formalin penetrates lymphoid tissue slowly, the node should be immediately placed in formalin fixative. Correct fixation is vitally important. If there is any indication of an inflammatory condition, and particularly if tuberculosis is suspected, a portion of the lymph node should be submitted fresh in a sterile container to a Microbiology Laboratory, and a portion of it fixed in formalin and sent to the Histopathology laboratory for histological examination. Attempts at microbiological culture from formalin fixed tissues will be unsuccessful, although increasingly PCR studies can be undertaken on formalin fixed tissue.

Prostatic Core biopsies including mapping biopsies

Place all cores from one site in a separate pot from the other sites. If appropriate, the lab will use multiwall cassettes. For mapping prostate core biopsies, please send the biopsy grid and the MRI scoring of the prostatic zones.

Cone/LLETZ Excisions of the Cervix

Place the specimen in formalin intact. If the specimen is taken in pieces, a drawing explaining the relationships between the various pieces will be very helpful in determining which margins the pathologist should be reporting on.

Unusual Cases

If special investigations such as electron microscopy and muscle or nerve biopsies for degenerative conditions are required, please discuss them with us in advance. These may require non-routine fixation, special transport media and referral to a specialist laboratory.

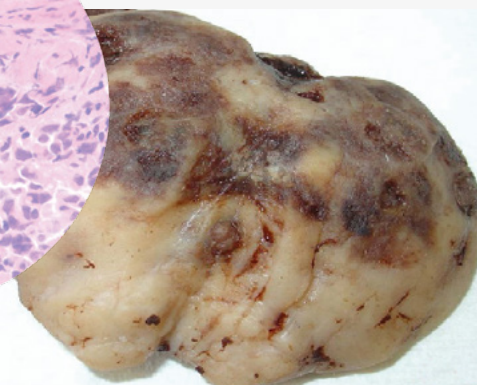
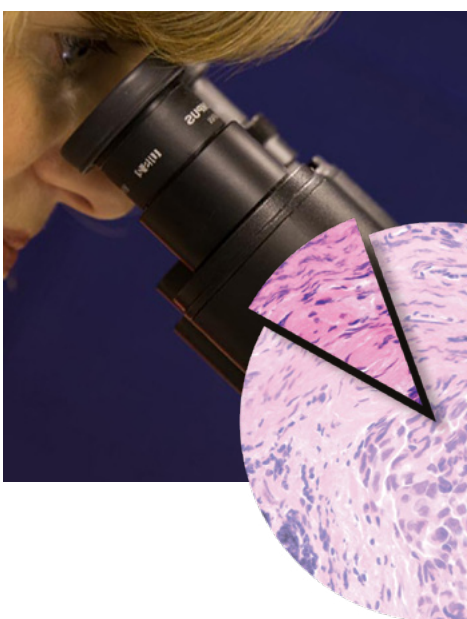
Specimens requiring consent

We are unable to examine, process or dispose of specimens that contain foetal tissue without a fully completed consent form, which must be submitted to the laboratory with the specimen.

Consent forms are available from our team on 01923 233299 or info@cellpathservices.co.uk. We cannot handle foetal specimens of 24 weeks or greater gestational age.

Specimens that may contain foetal tissue require a consent form include:

- Products of conception (miscarriage)
- Salpingectomy for suspected ectopic pregnancy
- Termination of pregnancy specimens



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Frozen sections

Frozen sections will be undertaken after discussion with one of the Consultant Histopathologists. Contact the Histopathologists on 01923 233299.

Requests for frozen section should be booked at least a week in advance. However, we may be able to assist you with ultra urgent requests for frozen section such as may occur as a result of an unexpected intraoperative finding.

Handling specimens for Frozen Section

Fresh specimens for frozen section must be sent directly to the frozen section station without delay in a dry container. Do **NOT** add any formalin.

Mons Surgery

CPS offers a MOHS micrographic surgery frozen section service for skin cancer and conservation of tissue. This can be in the form of on-site support from a Biomedical scientist and/or a Pathologist.

Specialist equipment will be required for an on-site service. Alternatively a courier to the CPS premises for the MOHS frozen section can be arranged. Please contact the organisation to discuss requirements further and before your service is put into place.



The telephone number of the theatre should be noted on the request form so that the pathologist can discuss the frozen section findings with the consultant surgeon.

Direct immunofluorescence

This is a procedure for detecting in-vivo deposition of immunoglobulins, complement components and fibrinogen in a patient's skin or oral mucosal tissue.

Procedure for biopsy

Specimens for direct immunofluorescence studies must be sent in Michel's transport medium, which is available on request from CPS.

Whenever possible, biopsy a single fresh small blister including adjacent clinically uninvolved skin (perilesional). For a large blister, biopsy edge of blister and adjacent uninvolved skin (perilesional). Cut the perilesional end and send for immunofluorescence studies and the remaining blister for histology. For uninvolved skin, a 3mm punch biopsy is sufficient.

Indirect immunofluorescence

10ml clotted blood should be sent to the laboratory within 48 hours or serum separated and sent within one month of collection.



For further information please contact us on:

Other useful leaflets

In addition to this healthcare staff information leaflet we also have the following:



Requesting Specimen Analysis



Specimen Collection & Handling of Histological Samples



Specimen Collection & Handling of Diagnostic Cytology Samples



Specimen Collection & Handling of Gynaecological Cytology Samples



Histology and Cytology Request form

To see our full range of Healthcare Information leaflets visit our website:
www.cellularpathologyservices.co.uk

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