Manchester University
NHS Foundation Trust

Division of Laboratory Medicine

Adult Histopathology Service User Guide

Department of Cellular Pathology

Table of Contents

1 Introduction

This user guide details information for the requesting of investigations, specimen requirements and communication of results for the department of Adult Histopathology; please see the separate user guide for Paediatric Histopathology.

Adult Histopathology is situated in Clinical Sciences Building 1 at Manchester Royal Infirmary and is part of the Department of Cellular Pathology. We provide comprehensive services to Manchester University NHS Foundation Trust, General Practitioners, and Dental Practitioners and also provide specialist tertiary referral and opinion on a regional and national basis.

We offer the following histopathology diagnostic services with consultant sub-specialist reporting:

- Gynaecological pathology
- Gastrointestinal, pancreaticobiliary and hepatic pathology
- Renal, urological and endocrine pathology
- Haematological and lymphoreticular pathology
- Osteoarticular and soft tissue pathology
- Head and neck pathology
- Dermatopathology
- Cardiothoracic and respiratory pathology
- Ophthalmic pathology

These are supported by our Immunohistochemistry, Electron Microscopy and Research services.

The histology department at Manchester Royal Infirmary also incorporates the Haematological Cancer Diagnostics (HCD) in partnership with the Christie, which is a Specialist Integrated Haematological Malignancy Diagnostic Service (SIHMDS) for the Greater Manchester area. This service is accredited by NHS England and its director is Dr John Burthem. Further information can also be found using the following link: http://haematologyetc.co.uk/Manchester_Haematological_Cancers_Diagnostic_Partnership

Autopsies are carried out by our Consultant Histopathologists, Specialist Doctors and Trainee Histopathologists within the adjacent Adult Mortuary. Further information can be found on the Adult Mortuary user guide or by contacting the relevant consultant pathologist.

Our department deals with approximately 30,000 surgical cases and around 1000 autopsies on behalf of HM Coroner annually. Our department comprises over 60 medical, scientific and ancillary staff and has an excellent reputation for clinical and scientific training. The ST1 Training School, which was opened in 2005, offers entry to run-through training for high quality entrants to the Histopathology specialist training scheme of the North West Deanery. We also have IBMS training status and support local universities in the training of Biomedical Science students.

2 Contact Us

2.1 Opening Hours (5.4.2 c)

The laboratory is open 08.00 – 17.00 Monday to Friday, excluding public holidays.

We do not offer an out-of-hours or on-call service.

2.2 Location (5.4.2 a)

Our reception is located on the 1st floor of Clinical Sciences Building 1 (CSB1) at Manchester Royal Infirmary.

Address: Adult Histopathology
1st Floor, Clinical Sciences Building 1
Manchester University NHS Foundation Trust
Oxford Road
Manchester
M13 9WL

2.3 Contact Information (5.4.2 l)

Histology Reports

Telephone	**0161 701 1615**
Email	mft.adult.histosecs@nhs.net

All enquiries for histology reports should be directed to our secretarial office.

Specimen Reception

Telephone	0161 276 8808

All enquiries regarding frozen sections, specimen requesting, labelling, transport and requirements should be directed to our Specimen Reception.

Key Contact Details

Specimen Reception	0161 276 8808
Main Laboratory	0161 276 6449
Immunohistochemistry	0161 276 8786
Electron Microscopy	0161 701 0795
Research	0161 276 8814
Ophthalmic	0161 276 5806

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3 Quality

Adult Histopathology is fully accredited by UKAS in conformance with ISO 15189:2012. Our UKAS Medical Laboratory Reference Number is 8648. The department participates in regular exhaustive assessments to maintain its accreditation status. The department is licensed by the Human Tissue Authority (HTA).The department is committed to deliver a quality service to our users and continual improvement. A quality management system is utilised to ensure all documents, processes, quality records and clinical material are

controlled to DLM (Division of Laboratory Medicine) policy. Processes and systems are regularly audited to identify non-conformities and quality improvements.

3.1 External Quality Assurance (EQA) (5.6.3.1)

The department participates in the following external quality assurance schemes:

UKNEQAS for Cellular Pathology Technique

- General Cellular Pathology (Tissue Diagnostics Scheme and Specialist Techniques Scheme – from 2021)
- Renal Biopsy Pathology
- Bone Marrow Trephine
- Frozen Sections/Mega Blocks

UKNEQAS for Immunocytochemistry and In Situ Hybridisation

- General Pathology
- Lymphoid Pathology
- Alimentary Tract Pathology
- MMR
- ALK NSCLC
- PD-L1
- ROS-1

Royal College of Pathologists Australasia Quality Assurance Program (RCPAQAP)

- Anatomical Pathology Electron Microscopy Module

3.2 Data Protection (5.4.2 m)

The department complies with trust, DLM and departmental policies relating to the handling, use and protection of personal information (DLM-QUAL-PRO-022 Management of Data and Information).

- We only ask for information that we need to allow interpretation of results
- We protect the information and ensure only those staff who need to see the information can access it
- We share the information only when we need to for patient care, for example sending the information to another laboratory for testing
- We don’t store information for any longer than is absolutely necessary

3.3 Uncertainty of Measurement (5.5.1.4)

In clinical laboratory testing there are potential uncertainties that can affect test results, such as poor specimen collection or transport, patient related factors or other interfering factors. The laboratory examination process itself is subject to some degree of variability and our department regularly monitors this by the use of internal quality control and participation in external quality assurance schemes.

In accordance with the RCPath guidance, an assessment of the uncertainty of measurement will be carried out for any measurement that is included in the diagnostic report if it is deemed to have actual or potential “direct clinical impact.”

Where weights and measurements are part of an overall description and do not impart prognostic or predictive value, an assessment will not be carried out.

3.4 Patient Consent (5.4.2 i)

It is the responsibility of the requesting clinician to ensure that any objections or restrictions expressed by a patient to the use of their tissue are clearly recorded on the request card.

It is vital to ensure that all early pregnancy tissue specimens for histological investigation have the appropriate **fully completed PS1consent form** enclosed with the histology request card.

4 Requesting of Investigations

The Division of Laboratory Medicine (DLM) guidelines for specimen acceptance must be followed to ensure that all samples are correctly and unambiguously identified. The policy provides an overarching process to specimen rejection to help balance the requirement to process against the risk to patient safety. Clinical governance issues may arise from errors in specimen identification and/or insufficient clinical information being given with a specimen. To ensure that specimens are linked to the correct patient, adequate identifiers are essential. Due to the difficulty in repeating a tissue specimen, different criteria are used in Adult Histopathology.

All urgent and specimens on a cancer tracking pathway (HSC205) should be clearly labelled as such. The date and time the specimen was taken is important information that should be included on all requests to determine the length of fixation of the tissue specimen.

4.1 Specimen Acceptance Policy (5.4.2 j)

All samples sent to Adult Histopathology must comply with our specimen acceptance requirements. All fields on the histology request card/ICE request should be completed to ensure efficient and effective investigation of the specimen.

The following mandatory information must be provided for us to accept the specimen:

Essential Patient Identifiers:

- **Surname**
- **Forename**
- **Unique identification number** – district for Central site, EMPI for Trafford, NHS or external hospital number for external cases
- **Date of birth**
- **Address** – for GP, ophthalmic and external locations

Essential Clinical Details:

- **High risk status** – to ensure health and safety of all staff
- **Specimen site** – must match on specimen pot and request card
- **Relevant clinical information** – to ensure all necessary investigations are performed, gestation date and LMP for gynaecological specimens
- **Lung cancer -** For any sample where there is a clinical concern for lung cancer (primary or metastatic), please ensure details of smoking (never/light smoker or current/ex-smoker) and performance status (WHO 0 1 2 3) are recorded on the request form in the clinical details section.
- **Consent** – **fully completed PS1 form and gestation date** or LMP for early pregnancy tissue specimens, with clear indication of cremation or burial wishes.
- **Date/time taken** – essential to ensure proper fixation of high risk specimens

Essential Sender Details:

- **Ward/department** – required for return of reports
- **Consultant or GP** – required for return of reports and contact in case of any errors/discrepancies
- **Contact number/bleep** – for frozen sections

Specimens that do not contain the required information or have discrepancies between the request card and specimen pot will not be processed in the laboratory until the necessary information has been obtained. The sender will be contacted to attend the laboratory to complete any missing information or correct any mistakes. The person correcting the patient or specimen details should be of appropriate seniority and able to take responsibility for the labelling of the specimen. This will result in a delay to specimen processing and reporting.

For some external clinics we will accept corrections to patient detail discrepancies via email, e.g. Concordia.

4.2 Request Cards (5.4.2 e)

All paper request cards should be completed in full (see above) and all information provided should be clearly legible. Any missing information or errors will result in a delay to specimen processing and reporting.

Correct patient and specimen information is vital for us to provide a quality service to our users. Any specimens deemed to be high risk or potentially high risk should be clearly labelled as such to protect the health and safety of all staff.

As we provide our service to a range of service users, please also state the type of unique patient identification number given, e.g. NHS, district, EMPI. Please also indicate whether the patient is an NHS, private or waiting list initiative patient.

If a patient is part of a research project, this should be clearly labelled on the request card to ensure that the specimen undergoes the correct procedures. Similarly, patients that are part of a screening programme, e.g. BCSP BOSS, should be clearly labelled.

4.3 ICE Requests (5.4.2 e)

Specimen acceptance criteria for ICE samples are identical to those for samples requested in the conventional manner. Unlike some of the other pathology disciplines, Adult Histopathology still require a request card for all specimens requested on ICE. ICE generates two histology labels for each pot. Both must be used, one label contains patient demographics; the other contains space for the user to add information regarding specimen type. ICE labels must be attached to the specimen container and not to the lid of the container.

4.4 Storage of Specimens (5.4.2 h)

Prior to transport to the laboratory, it may be necessary to temporarily store specimens. All specimens that are placed into Formalin should be kept at room temperature until transported to the laboratory. Specimens in Formalin should not be placed into the fridge as this will have a negative impact on fixation and therefore preservation of the tissue.

Specimen	Storage
Formalin	Room temperature
Dry unfixed	Fridge
Gel transport medium	Fridge
Zeus medium	Room temperature

All dry specimens and specimens in gel transport medium ideally should be transported to the laboratory immediately. Where this is not possible, these specimens should be stored in the fridge. Specimens in Zeus medium should be stored at room temperature. Zeus medium should ideally be stored in the fridge prior to use.

4.5 Transport of Specimens (5.4.2 h)

All specimens should be transported in the relevant fixative or transport medium as indicated below in section 5. All specimen pots should be tightly sealed and transported using specimen bags, where appropriate. The request card should be placed in the pocket of the specimen bag, and the pot inside the sealed bag to ensure the safety of all staff.

Specimens from clinics at MRI are delivered to our specimen reception throughout the day. Porters that collect specimens from theatres and deliver them to our specimen reception should do so using a bunded trolley. These specimens should be recorded and signed for when delivered to maintain the necessary records. We also have a transport system for the transfer of specimens between MRI and Trafford General Hospital. These specimens should also be recorded and signed for by histology reception staff for audit and tracking purposes.

All specimens sent via Royal Mail should adhere to the packaging guidance available on the Royal Mail website. It is the responsibility of the sender to ensure that specimens are appropriately labelled and packaged.

4.6 Specimen Tracking (5.4.2 h)

Many of our service users have systems in place to track specimens. If specimen acceptance criteria are applied at the time of tracked receipt, the specimen can be returned to the sender quickly should any discrepancy be identified.

Appropriate action in the event of a specimen acceptance failure involving fresh tissue (e.g. frozen section, gel sample) or an Urgent / HSC 205 sample is decided at the discretion of the reporting pathologist. The decision to accept and process pending confirmation may be taken.

If a specimen has been requested using ICE, the sender can use ICE to check whether the specimen has been received.

4.7 Requesting Formalin Pots (5.4.2 h)

All requests for Formalin pots should be faxed to our specimen reception using the appropriate request form available from the laboratory. MRI and Trafford theatres have separate request forms, as do GPs. Requests will be dealt with as soon as is practicable, however if you require the pots urgently please inform the laboratory by telephone on **68808**. Sufficient notice should be given.

Please be aware that porters and transport have limited capacity to deliver formalin pots. Frequent smaller orders are advised rather than occasional large orders.

4.8 Handling Formalin (5.4.2 h)

The department uses 10% neutral buffered Formalin (4% formaldehyde) and this should be handled with care at all times. Genta is our supplier of Formalin and has issued the following safety information:

10% Formalin

Acute Toxicity	Category 4 - Harmful if inhaled
Skin Sensitizer	Category 1 - May cause an allergic reaction
Carcinogen	Category - 1B May cause cancer
Mutagen	Category 2 - Suspected of causing genetic defects

All solutions containing formalin are suspected carcinogens, mutagens and sensitisers. The solutions should be handled with care, minimising skin contact. Safety equipment including gloves should be worn and any spill on the skin should be washed as soon as possible. Contaminated clothing should be removed immediately and washed before re-use as the chemical can soak through clothing to stay in contact with the skin for a long period of time. In general, formalin solution, like any other chemical should be treated with respect. Handle with care and avoid any situations which could potentially result in formalin spillage.

Formaldehyde vapours in the air are also harmful. The safety limit for formaldehyde in air is two part per million (2ppm). This means workers should not be exposed to formaldehyde vapour above this level (averaged over the period) for more than 15 minutes at a time. Testing machines are available to monitor the level of formaldehyde vapour in air but as a rough guide, 2ppm of formaldehyde will have a strong, unpleasant smell and will start to sting the nose and eyes on first entering the room. This check is only valid on first entering the room as the senses quickly acclimatise and will be less sensitive. In most hospitals with proper bench extraction it is unlikely that the limit will be reached in normal use but may be in the event of a spill.

Information from: Formalin Usage Guide for Hospitals – Genta, Version 2.1 (Jan 2016)

Formalin can be disposed of down a sink suitable for clinical waste with copious amounts of running water in a well-ventilated room.

4.9 Formalin Spillages (5.4.2 h)

Formalin should be handled with care and sent in appropriately sized containers with secure lids to minimise the risk of a spillage. Specimen pots should be secured in a sealable plastic specimen bag.

Each sender who handles Formalin should have their own policy or procedure and equipment for handling Formalin and dealing with a spill. Spillages should be dealt with as soon as it safe to do so. Salvage of any specimen should be of the highest importance as it is likely to not be repeatable. Specimens must not be discarded.

The sender must inform the laboratory of any spillage where the specimen may have been lost, partially lost or its integrity compromised. This should be reported as an incident and the sending clinician should be informed as soon as possible.

Couriers and porters should not attempt to handle a Formalin spillage in transit without having received proper training. In the event of a spillage, ensure the safety of others in the vicinity and contact the laboratory immediately on **0161 276 8808**. Please give full details of your location and a fully trained member of staff will attend the spillage.

Our Formalin supplier, Genta, has issued the following guidance on spillages.
Spillage volumes:

- Minor spillages (up to 200ml) – usually can be dealt with by 1 or 2 staff using simple procedures
- Large spillages (200ml - 5 litres) – require the use of a Formaldehyde spillage kit
- Major Spillages (over 5 litres) – should be dealt with by Fire Service

4.9.1 Dealing with minor spills

In a hospital environment formalin is mostly handled in very small containers with less than 100ml of 10% formalin solution. A spill of this size is unlikely to contaminate the air to dangerous levels if dealt with promptly. The spill can be wiped up with absorbent material by staff members wearing suitable impervious gloves such as nitrile gloves. The contaminated material should be sealed in plastic bags for disposal and removed from the room as soon as possible. It is important not to simply dispose of the contaminated material in an open bin as the formaldehyde will continue to contaminate the air.

4.9.2 Dealing with large spills

Some hospitals use formalin solutions in larger quantities, for example large specimen containers/buckets for whole organ fixing. A spill in this case can be up to ten litres and can cause more serious air contamination. Such a spill should only be tackled by trained personnel with appropriate personal protective equipment. This should include protective gloves, over-suit, boots and respiratory protective equipment (R.P.E.) with forced air feed or formaldehyde selective filters. The spill should be contained by absorbent booms and prevented from entering drains. The spill should then be absorbed into an appropriate absorbent medium, sealed in an airtight container and kept as special waste for professional disposal.

- Evacuate all staff from immediate area and nearby areas of spillage
- Wearing the appropriate personal protective equipment and full face mask, use a Formaldehyde spill kit to contain the spillage
- Ensure all materials used to tackle the spillage are appropriately contained and disposed of

4.9.3 Dealing with major spills

- Evacuate the area
- Break nearest fire alarm point
- Phone emergency number for your department (e.g. 2222)
- Inform of nature and site of spillage

5 Specimen Requirements

All specimens should be sent to the laboratory in an appropriately labelled specimen pot that is large enough to easily accommodate the specimen. It is unsafe practice to label specimen pots in advance of a procedure.

5.1 Factors Affecting Performance (5.4.2 k)

The following is a list of factors known to significantly affect the performance of examination and interpretation of results:

- Failure to follow the specimen acceptance policy will result in a delay to specimen processing and reporting.
- Failure to supply adequate clinical information may result in a delay to requesting of specimen investigations and reporting.
- Failure to label requests as urgent or HSC205 will result in a delay to specimen processing and reporting.
- Failure to fix specimens appropriately and in a timely manner will adversely affect specimen integrity and subsequent histological examination.
- Failure to follow instructions for the specific specimen requirements will prevent necessary examinations from being performed.
- Failure to disclose high risk status of the specimen will put staff at unnecessary risk of infection.
- Specimens for frozen section placed in 10% neutral buffered Formalin will result in a frozen section not being performed and therefore a rapid report would not be possible.
- Failure to contact consultant/laboratory in advance for a frozen section may result in a delay or even a scenario where it cannot be performed, due to a lack of availability of technical staff and/or Consultant staff.
- Specimens for immunofluorescence placed in 10% neutral buffered Formalin will prevent necessary immunofluorescence examinations.

5.2 Specimen Fixation (5.4.2 k)

Specimens for routine histology are required to be placed into 10% neutral buffered Formalin, which is available on request from the laboratory. Formalin is used to fix the specimen and preserve the tissue in as life-like state as possible. If there is a delay between the removal of the tissue and fixation in Formalin, this can adversely impact the specimen integrity and therefore report.

To ensure proper specimen fixation, the following guidelines should be adhered to:

- Specimen container – should be appropriately sized and large enough to easily accommodate the specimen
- Formalin – ensure adequate volumes of Formalin are used
  - 1:5 tissue to Formalin ratio for very large specimens
  - 1:10 tissue to Formalin ratio for small specimens where possible
- Ensure the details on the specimen pot and request card match and are legible
- Ensure the lid of the specimen container is securely fastened
- Use a plastic biohazard sealable specimen bag (where possible) for the specimen pot and place the request card in the pocket

All specimens in Formalin should be stored at room temperature and not in the fridge prior to transport to the laboratory.

5.3 High Risk Specimens (5.4.2 k)

All specimens from patients who are identified as (or are likely to be) in the high risk category must be clearly labelled to ensure the health and safety of all staff. The following are common hazard group 3 pathogens considered high risk (this list is not exhaustive): HIV, AIDS, TB, Hepatitis B and Hepatitis C. Specimens from patients with **Covid-19**, who are immunosuppressed, drug abusers and other high risk groups are also considered high risk.

Any samples taken where the patient is suspected of having TB MUST be divided within theatre so as to provide sufficient samples for Histology (sent in formalin) and Microbiology (sent in an empty sterile container).

To ensure health and safety of staff, high risk specimens are to be fully fixed before being processed by the laboratory. The date and time that the specimen is taken should be recorded on the request card for all high risk specimens to enable the laboratory to calculate the fixation time on receipt. This information will minimise the infection risk to staff and prevent undue delay to processing.

Frozen sections and immunofluorescence investigations will not be performed on any high risk or potentially high risk specimen.

5.4 Frozen Sections (5.4.2 d)

All intra-operative frozen sections should be booked with the laboratory specimen reception **0161 276 8808** to ensure the availability of the appropriate scientific and consultant staff. Every attempt will be made to provide frozen sections during the laboratory opening hours, providing appropriate clinical and technical staff are available.

Requests for frozen sections should be made 24 hours in advance, where possible. Where this is not possible, the laboratory should be contacted at the earliest opportunity when theatre staff are aware a frozen section is required. When booking a frozen section, please provide the following information;

- Patient information
- High risk status
- Clinical information
- Clinician name
- Theatre number
- Contact number

The specimen for frozen section should be transported to the laboratory in an appropriately labelled **dry** specimen container and must arrive by 4.30pm. Formalin must not be added. Specimens should be handed directly to the technical staff at histopathology specimen reception as a matter of urgency to ensure a timely report is issued.

Frozen sections will not be performed on any high risk or potentially high risk specimen.

When the specimen is ready to be sent to the laboratory, or if there is a delay in theatre, please contact specimen reception. If a frozen section is no longer required, please contact the laboratory immediately to cancel.

5.5 Immunofluorescence (5.4.2 d)

All renal, skin, oral and conjunctiva specimens that require immunofluorescence investigation should be placed into gel transport medium or Zeus transport medium. These specimens should not be placed into Formalin as this technique cannot be performed on fixed tissue. Gel/Zeus transport medium is available on request from our specimen reception.

All gel/Zeus tubes should be labelled with the appropriate patient information as detailed in our specimen acceptance policy. Immunofluorescence will not be performed on high risk or potentially high risk specimens due to the health and safety risk it poses to staff.

5.6 Renal Biopsy (5.4.2 d)

All renal biopsies should be transported to the laboratory immediately to enable urgent processing of the specimen. All specimens placed into gel transport medium for immunofluorescence should be stored in the fridge if immediate transport to the laboratory in unavailable.

5.6.1 Native Biopsies

Where possible, two cores of native renal tissue should be obtained to enable investigation into native renal disease. A good quality core of renal tissue is required for routine histology investigations and should be placed in an appropriately labelled container of 10% Formalin. The second core should be placed into gel transport medium for immunofluorescence, however if there is any uncertainty regarding the adequacy of the sample then both cores should be placed in Formalin.

5.6.2 Transplant Biopsies

Patients who have had their transplant for less than 3 months:

- Two cores, if possible, and both placed into 10% Formalin.

Patients who have had their transplant for more than 3 months:

- Treat as native biopsy (see above).

5.7 Pregnancy Remains (5.4.2 d)

The emergency gynaecology unit is based at Wythenshawe. However, pregnancy remains for Adult Histology will be accepted from MFT patients admitted to St Mary's and triaged as appropriate. It is important to ensure that the request form and PS1 form is completed fully to prevent undue delay and distress to the patient following the loss of a pregnancy. If documentation is incomplete, it may be necessary for the sender to contact the patient to confirm details.

Requests for Post Mortems (PM) on pregnancy remains that are over 12 weeks gestation should be sent to Paediatric Mortuary with consent and clinical history. All pregnancy remains sent to Adult Histopathology must have an accompanying **fully completed PS1 form**.

5.8 Limbs (5.4.2 d)

Please notify the laboratory of all limb amputations at the earliest opportunity on 0161 276 8808.

5.9 Haematological Cancer Diagnostics (HCD) (5.4.2 d)

All Histology HCD samples should be fixed in 10% buffered formalin and labelled clearly with the correct patient identifiers in accordance with the departments acceptance policy.
The request should be entered onto the HOD system and allocated a unique HODS number at the clinic where the specimen has been taken.
These **must** be sent directly to Central Specimen Reception (CSR) on the ground floor of the Clinical Sciences Building, ORC.

5.10 Ophthalmic Pathology (5.4.2 d)

Ophthalmic pathology forms part of Adult Histopathology and provides a diagnostic service in Ophthalmic Histopathology and Cytopathology. It is one of four laboratories within England making up the National Specialist Ophthalmic Pathology Service (NSOPS).

The laboratory aims to provide a high quality and timely service with provision of expertise in diagnosis using an appropriate range of techniques including histology, cytology, immunofluorescence, immunohistochemistry, and electron microscopy. Specimen requirements differ depending on the investigations required.

More information can be found in the Ophthalmic Histopathology user guide:

https://mft.nhs.uk/the-trust/other-departments/laboratory-medicine/histopathology/

5.11 Biobank and Cellular Pathology Research (5.4.2 d)

Research and Innovation at MFT offers a biobank and cellular pathology research service. The biobank and research teams provide a high quality and not-for-profit sourcing, storage, preparation and analysis of human biological samples service. We support clinical trials and research projects led by the NHS, universities and commercial partners. As part of the NHS, the biobank and research teams aim to improve people's health by providing a valuable resource to researchers wanting to understand the development and genetic links of disease.

The biobank offer the following services:

- Banked samples
- Sample collection
- Pre-analytics and storage services
- Extraction and analysis

Cellular pathology research offers the following services:

- Processing, paraffin embedding and sectioning of fixed tissue
- Electron microscopy (subject to requirements)
- Frozen sectioning of fresh tissue samples
- Immunohistochemistry (IHC) including single and dual staining
- Antibody optimisation for IHC
- Chromogenic in-situ hybridisation (CISH)
- Silver in-situ hybridisation (SISH)
- Standard H&E and special staining techniques
- Pathological review

More information can be found at:
https://mft.nhs.uk/the-trust/other-departments/laboratory-medicine/histopathology/

All biobank and research requests require a formal application. For more information please contact the relevant department.

Biobank	0161 701 1890
Histology Research	0161 276 8814

5.12 Immunohistochemistry (5.4.2 d)

The Adult Immunohistochemistry Laboratory is situated on the ground floor of the Cadet building, in clinical sciences, and provides IHC testing for both our ISO accredited histology and cytopathology services. We currently house four automated Ventana BenchMark Ultra staining machines which we use to carry out our routine clinical work. We currently hold a

repertoire of over 150 antibodies, listed on our Antibody Repertoire List and are enrolled in the UKNEQAS ICC quality assurance scheme.

Any clinician wishing to request specific immunohistochemistry antibody markers should discuss this with the reporting pathologist. It is not appropriate to contact the laboratory directly to request IHC.

The laboratory is the regional referral centre for Diagnostic Mismatch Repair (MMR) testing, working alongside the genetics department in St Mary's Hospital for genetic testing referrals. Requests should be directed to the IHC laboratory. Clinical trial material requests and research projects are also processed in the department.

More information can be found at:
https://mft.nhs.uk/the-trust/other-departments/laboratory-medicine/histopathology/

5.13 Electron Microscopy (5.4.2 d)

The Cellular Pathology Electron Microscopy (EM) Service is situated on the Ground Floor of Clinical Sciences Building 1 at Manchester Royal Infirmary. It provides a high quality adult and paediatric diagnostic transmission electron microscopy service for MFT and for several external Trusts nationwide. The unit is open and staffed from 08:00 – 17:15 Monday to Friday (except bank holidays).

Approximately 90% of the samples handled are renal. Electron microscopy is routinely carried out on both native renal biopsies and longstanding renal transplant biopsies. For all other specimen types, electron microscopy will be undertaken at the specific request of the reporting Consultant Histopathologist. If the user would specifically like to request electron microscopy on a specimen, an appropriate Consultant Histopathologist must be contacted prior to biopsy. For any other information please contact the Lead Biomedical Scientist for Electron Microscopy on 0161 701 0795 or 0161 276 8806.

Current or prospective service users external to the Trust can find more information in the Cellular Pathology Electron Microscopy User Guide for External Service Users available on the Laboratory Medicine area of the Trust Website (Histopathology section) at:
https://mft.nhs.uk/the-trust/other-departments/laboratory-medicine/histopathology/

5.14 Referrals (4.5)

The department regularly receives requests for expert/second opinion from other hospitals. Similarly, the department also refers cases to other services for expert opinion, diagnostic services and in response to service pressures. The following are the most commonly used.

Type	Address
Lymphomas	Via the HCD partnership with The Christie.
Reporting/Vacancy cover	LDPath NHS Department, 6 St Johns Place, London EC1M 4NP
Genetics	Manchester Centre for Genetic Medicine 6th Floor, St Mary's Hospital, Oxford Road, Manchester M13 9WL

6 Communication of Results

6.1 Reports (5.4.2 l)

Typed reports will be available when all necessary tests have been completed, reviewed and authorised by a Consultant Pathologist. Verbal reports or clinical discussions can only be provided to qualified medical staff by Consultant Pathologists. All report enquiries should be directed to the secretarial office in the first instance. The scientific staff in the laboratory cannot give out any information regarding results/reports.

Histology Reports

Telephone	**0161 701 1615**
Email	mft.adult.histosecs@nhs.net

Users are requested to check if final reports are available in hospital notes, clinics or wards before making enquiries. Please note that clerical staff will not give report details over the telephone.

6.2 Turnaround Times (5.4.2 d)

The department works to RCPath Key Performance Indicators (KPI). The target is to report 80% of diagnostic biopsy cases within 7 days, and 80% of all specimens within 10 days (except those requiring decalcification).

Reporting times for all specimens, including urgent and HSC205, may be extended if they are high risk specimens, large resection specimens or calcified or bony samples. Any case requiring specialist techniques such as immunohistochemistry or electron microscopy will also likely have extended reporting times. Some cases may require referral to a specialist referral centre, which can prolong reporting times. This would include samples such as lymphomas, which are routinely referred to the Christie via the Haematological Cancer Diagnostics Service. However, a preliminary report would be issued beforehand. An appropriate frozen section request will aim to be reported by telephone within 60 minutes. Frozen sections should normally be booked with the laboratory beforehand.

To ensure we meet our turnaround time targets, all urgent and HSC205 specimens must be clearly labelled as such. There are a number of factors that may affect the turnaround time of a specimen, such as those mentioned in 5.1 Factors Affecting Performance.

7 Enquiries and Complaints (5.4.2 n)

To enable us to deal with enquiries efficiently, please ensure you use the correct contact information, as detailed in section 2 (Contact us). The department is committed to fully investigating all complaints regarding the standard and quality of services that we offer. Please contact our laboratory manager according to information below.

Laboratory Manager		
John Hayes	0161 276 6138	John.Hayes@mft.nhs.uk