DIAGNOSTIC PAEDIATRIC HISTOPATHOLOGY SERVICE – USER GUIDE

Department of Cellular Pathology

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1 Introduction

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

Paediatric Histopathology is situated in 4th Floor Royal Manchester Children's Hospital.

Information regarding autopsy service can be found in the Paediatric Mortuary user guide.

Our department deals with approximately 4000 surgical cases and around 400 autopsies annually. Our department comprises approximately over 25 medical, scientific and ancillary staff. We have IBMS training status and support local universities in the training of Biomedical Science students.

Services Offered

The laboratory offers a full range of histopathology techniques for children. These include:

- Routine diagnostic histopathology
- Enzyme histochemistry, including muscle histochemistry
- Immunohistochemistry
- Fluorescent In Situ Hybridisation (FISH) for soft tissue tumours and neuroblastomas (turnaround time of 3-4 days)
- Immunofluorescence for Renal Biopsies
- Electron microscopy via the electron microscopy suite in Clinical Sciences Building
- Molecular diagnostics (turnaround time 3-7 days) via Genetics 6th floor St'Mary's
- Non-gynae cytology- we perform a limited range of tests: to detect the presence of malignant cells, eosinophils, lipid or haemosiderin laden macrophages within fluid samples from paediatric patients. Please note we do not perform cell counts.

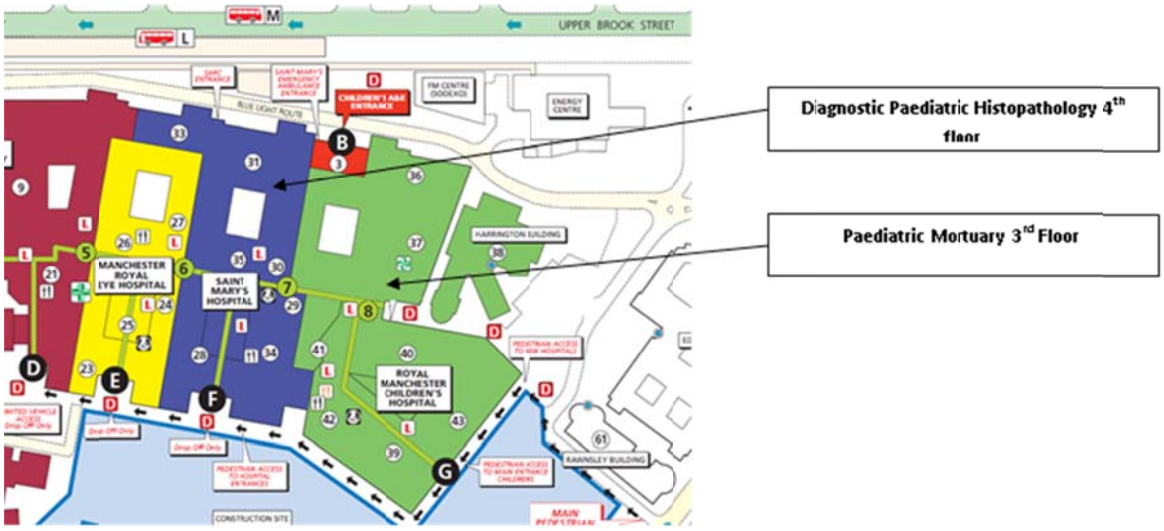
2 Contact Us

2.1 Opening Hours

The laboratory is open between 08:30 and 17:30 Monday to Friday excluding Bank Holidays. There is no regular on-call service for histopathology laboratory staff, though we do try to accommodate requests for out of hours urgent work wherever possible.

Out of hours, including bank holidays, all queries and requests should be addressed to the on-call Consultant Paediatric Histopathologist, contacted via switchboard

2.2 Location



Consultants, main laboratory and secretarial office are situated on the 4th floor of Royal Manchester Children's Hospital, lift core 7, next to pharmacy.

The Paediatric Mortuary is on the 3rd floor Royal Manchester Children's Hospital, lift core 8. Please see the separate User Guide.

Address

Diagnostic Paediatric Histopathology Service
4th Floor
Royal Manchester Children's Hospital
Oxford Road
Manchester M13 9WL
0161 701 2240

2.3 Contact Information

Histology Reports

Email	**paed.hist@mft.nhs.uk**

Histology reports can be accessed on ICE or Chameleon. Queries should be directed to the departmental e-mail account.

Laboratory Enquiries

All enquiries regarding frozen sections, specimen requesting, labelling, transport and requirements should be directed to the main histology laboratory.

Telephone	**0161 701 2240**

Directorate of Laboratory Medicine

Key Contact Details

CONSULTANTS AND MEDICAL STAFF

Name	
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Specialist Registrars	Ext 12935

LABORATORY AND OFFICE STAFF

Laboratory (Telephone Ext 12240)		
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Jeanette Thomas	Senior Medical secretary	Jeanette.Thomas@mft.nhs.uk

3 Quality

Paediatric Histopathology is fully accredited by the ISO15189:2012 accreditation standards. 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 (Directorate of Laboratory Medicine) policy. Processes and systems are regularly audited to identify non-conformities and quality improvements.

3.1 External Quality Assurance (EQA)

The department participates in the following external quality assurance schemes:

UKNEQAS for Cellular Pathology Technique

- General Cellular Pathology
- Muscle histochemistry
- Frozen sections
- Mega blocks

UKNEQAS for Immunocytochemistry and In Situ Hybridisation

- General pathology
- Lymphoid pathology

UKNEQAS for Cytogenomics (CEQAS)

3.2 Data Protection

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

For more information please visit:
http://www.cmft.nhs.uk/info-for-health-professionals/laboratory-medicine

3.3 Uncertainty of Measurement

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

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.

4 Requesting of Investigations

Specimen acceptance policy for Paediatric Histopathology in accordance with the Directorate of Laboratory Medicine (DLM) guidelines for specimen acceptance must be followed to ensure that all samples are correctly and unambiguously identified. 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.

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

All samples sent to Paediatric 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 (not required in neonates if unknown)**
- **Unique identification number** – district number for Central site, NHS or external hospital number for external cases
- **Date of birth**
- **Address**
- **Gender**

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
- **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.
Consent for histological examination is not documented on the request forms but forms an integral part of the clinical process, for consent for the procedure.

4.2 Request Cards

In order to give you the maximum possible histopathological information, we need you to give us full and accurate details on the appropriate request card. The request card must always be filled in as accurately and as fully as possible. Request cards with no or scanty details are logged in the laboratory error logging system and will be returned to the sender if incorrectly or incompletely filled in.

In accordance with the departmental and **DLM Specimen Acceptance Policy**, a minimum of four matching patient identifiers are required on the request card and the specimen pot before we can accept a sample. See **4.1 specimen acceptance policy**

All paper request cards should be completed in full 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.

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 agreed procedures.

4.3 ICE Requests

Specimen acceptance criteria for ICE samples are identical to those for samples requested in the conventional manner. 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/pot and **not** to the lid of the container. Unlike some of the other pathology disciplines, Paediatric Histopathology still require a request card for all specimens requested on ICE.

4.4 Storage of Specimens

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 in 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

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 temporarily and transport should be arranged as soon as possible.

4.5 Transport of Specimens

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 theatres are delivered to our specimen reception throughout the day. These specimens should be recorded when delivered to maintain the necessary records.

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

NEVER USE THE PNEUMATIC TUBING SYSTEM

4.6 Specimen Tracking

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 by the reporting pathologist. It is the responsibility of the Pathologist to communicate this within the report.
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4.7 Requesting Formalin Pots

Requests for Formalin pots will be dealt with as soon as is practicable, however if you require the pots urgently please inform the laboratory by telephone on **12240**. Sufficient notice should be given.

4.8 Handling Formalin

The department uses 10% neutral buffered Formalin (4% formaldehyde) and this should be handled with care at all times. We obtain our formalin from Genta, a reputable supplier and they have 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. 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) (external safety data sheet, contact laboratory if required)

Formalin may be disposed of down a sink suitable for clinical waste with copious amounts of running water in a well-ventilated room depending on local environmental rules. However, please check your local rules.

4.9 Formalin Spillages

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, and should have sourced from a reputable supplier. 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 701 2240** 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

4.9.4 Dealing with Biological spills

- Please contact Paediatric Histology on **0161 701 2240** for advice.

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

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.
- Muscle biopsies for enzymehistochemistry must be transported immediately to maintain enzyme and protein membrane integrity, failure to do so will result in poor/low diagnostic yield.
- Muscle biopsies placed in 10% neutral buffered formalin will prevent any necessary enzymehistochemistry testing.
- Rectal biopsies placed in 10% neutral buffered formalin will prevent any necessary enzymehistochemistry testing.

5.2 Specimen Fixation

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, are legible and a formalin hazard label is attached
- 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 <u>not</u> in the fridge prior to transport to the laboratory.

5.3 High Risk Specimens

Specimens that potentially contain category 3 pathogens (for example, mycobacterium, HIV, hepatitis B or hepatitis C) must be clearly labelled as HIGH RISK on both the request card and on the specimen pot to ensure the health and safety of all staff. Please refer to the Advisory Committee on Dangerous Pathogens (ACDP) website for a comprehensive list of Category 3 human pathogens.

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. All high risk specimens are to be fully fixed before being processed by the laboratory.

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

5.4 Frozen Sections

All intra-operative frozen sections should be booked with the laboratory by contacting the laboratory on **0161 701 2240** 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.

Frozen sections should be booked 24 hours in advance after discussion with a Consultant Pathologist. If this is not possible, for example in an emergency, a Consultant Pathologist should be contacted as soon as possible. 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 5.00pm. 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 the laboratory. If a frozen section is no longer required, please contact the laboratory immediately to cancel.

5.5 Urgent Specimens

If a specimen requires an urgent report, the laboratory should be contacted on 0161 701 2240 to request this. However, it is important to state that specimens for histological analysis do need at least 24 hours fixation and a further 24 hours preparation time. It is sometimes unwise to shorten this time, as it puts the quality of the specimen at risk. Please liaise with us and we can advise you on the optimum

way to deal with the sample, bearing in mind both the need for a rapid result and the requirement for good histology to make an accurate diagnosis.

5.6 Special Specimens

In order to gain the maximum amount of information we need to treat certain specimens in a specific way. In order to do this you need to liaise with us before you take the specimen, to discuss appropriate fixation, if any and transport.

The following specimens should be sent FRESH immediately following surgical removal and should be discussed with us in advance by telephoning the laboratory on 0161 701 2240 (fresh specimens should be refrigerated whilst awaiting porter/transport to the laboratory):

- Tumours
- Lymph node specimens suspicious of tumour
- Skin biopsies for electron microscopy.
- Skin biopsies for fibroblast culture are not for histopathology, and should be sent to either the Willink Laboratory or Cytogenetics.
- Lung biopsies
- Liver biopsies for metabolic disease (usually glycogen storage disease)
- Cytology specimens
- Skin immunofluorescence on skin biopsies from paediatric patients – External provider. These samples need to be sent unfixed. However there is no out of hours service. The on-call paediatric pathologist will be able to advise you what to do.
- Renal Biopsies (see section 5.7)
- Rectal Biopsies (see Section 5.8)
- Muscle Biopsies (see section 5.9)

If you are unsure about anything, including whether a specimen should be sent fresh or fixed in formalin, please discuss this with us by ringing either a consultant histopathologist or a senior member of the technical staff (techniques requiring fresh specimens will not be available once the specimen is fixed)

Any other specimens should be fixed in formalin as soon as possible before transport to the laboratory. Formalin fixed specimens should be kept at room temperature.

If there are any queries out of hours then the advice of the on call Consultant Paediatric Histopathologist (contacted through MFT switchboard) should be sought.

Turnaround of specimens is at least 2-3 days for routine formalin fixed specimens. If extra specialist work is required the turnaround time will be increased. Specimens containing bone or teeth require decalcification and this can take days to weeks depending on the size of bone.

Factors that can significantly affect the interpretation of the sample results include poor fixation, drying artefact of unfixed specimens and cauterisation that occur from sampling artefact.

5.7 Renal Biopsy

All renal biopsies should booked in advance with the laboratory, by telephoning the laboratory on 0161 701 2240. This is to ensure the availability of the appropriate scientific staff to handle the specimen. Any urgent renal biopsies that require a report on the same day must arrive to laboratory before 11.00am of that day.

5.7.1 Native Renal 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 kept fresh or ideally placed into gel transport medium which is appropriately labelled for immunofluorescence accompanied with a request card.

All specimens that are fresh or placed into gel transport medium for immunofluorescence should be stored in the fridge if immediate transport to the laboratory is unavailable. These specimens should not be placed into formalin as this technique cannot be performed on fixed tissue. Gel transport medium is available on request from our laboratory. Immunofluorescence will not be performed on high risk or potentially high risk specimens due to the health and safety risk it poses to staff.

5.6.2 Transplant Renal Biopsies

Two cores of renal tissue if possible and placed in an appropriately labelled container of 10% Formalin accompanied with a request card.

If there are any queries out of hours then the advice of the on call Consultant Paediatric Histopathologist (contacted through MFT switchboard) should be sought.

5.8 Rectal Biopsies for Hirschprungs Disease

All rectal biopsies should booked with the laboratory in advance before the procedure, by telephoning the laboratory on 0161 701 2240. This is to ensure the availability of the appropriate scientific staff to handle the specimen.

All rectal biopsies should be transported to the laboratory in an appropriately labelled **dry** specimen container accompanied with a request card. Small biopsies should be wrapped in gauze/foil to prevent the specimen from drying out. These specimens need to be transported to the laboratory **immediately**.

An Acetylcholinesterase histochemistry stain is needed to be performed on all rectal biopsies to aid diagnosis and this technique cannot be performed if specimens are placed into formalin.

Any high risk or potentially high risk specimens can be placed into formalin immediately.

If there are any queries out of hours then the advice of the on call Consultant Paediatric Histopathologist (contacted through MFT switchboard) should be sought.

5.9 Muscle Biopsies

All Muscle biopsies should booked with the laboratory in advance before the procedure, by telephoning the laboratory on 0161 701 2240. This is to ensure the availability of the appropriate scientific staff to handle the specimen

All muscle biopsies should be transported to the laboratory in an appropriately labelled **dry** specimen container accompanied with a request card. Muscle biopsies should be wrapped in foil to prevent the specimen from drying out. These specimens need to be transported to the laboratory **immediately**.

If the muscle biopsy requires mitochondrial analysis, a portion of the muscle is given to the Willink Laboratory. It is the responsibility of the requesting consultant to inform the laboratory if mitochondrial analysis is needed and to fill out all the necessary forms.

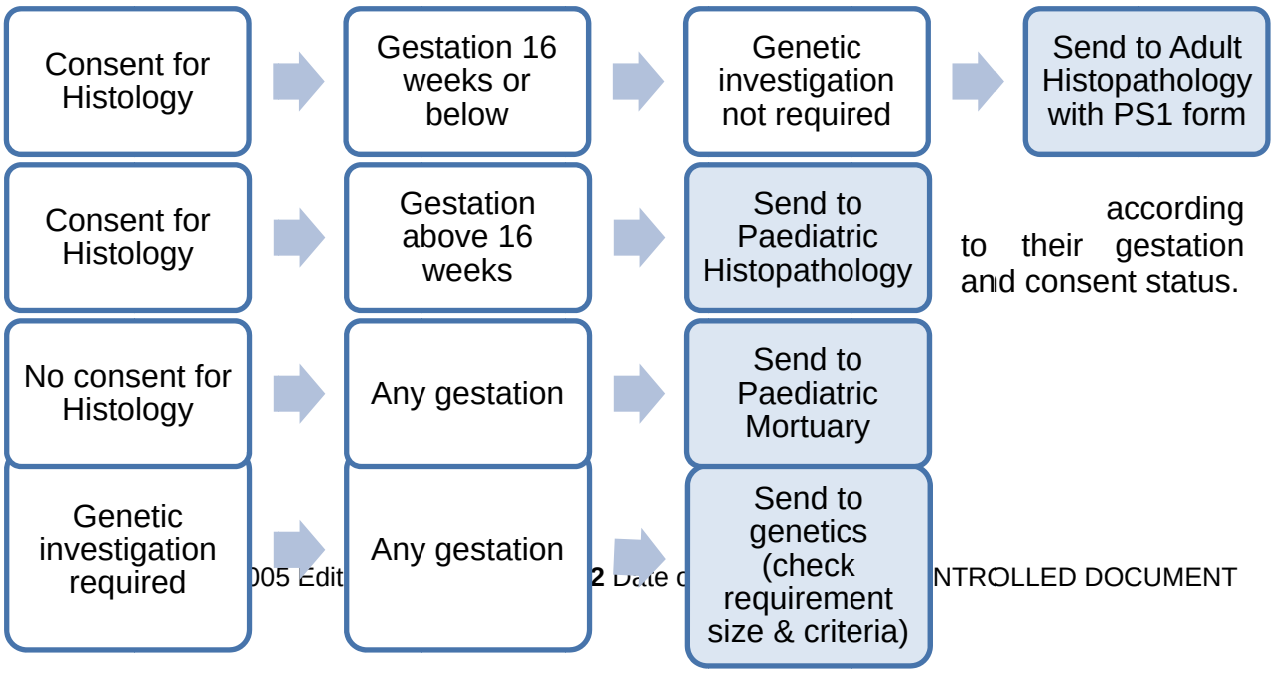
Enzyme histochemistry staining is essential for all muscle biopsies for diagnosis and this technique cannot be performed if specimens are placed into formalin.

Muscle biopsies will not be performed on any high risk or potentially high risk specimen.

If there are any queries out of hours then the advice of the on call Consultant Paediatric Histopathologist (contacted through MFT switchboard) should be sought.

5.10 Placentas

Paediatric histopathology primarily receives placentas but does not receive pregnancy remains below 15 weeks 6 days gestation. The flow chart below summarises which departments should receive placentas / pregnancy remains according to their gestation and consent status.



Requests for Post Mortems (PM) following pregnancy loss over 12 weeks gestation should be sent to Paediatric Mortuary with consent and clinical history.

It is best practise to fix the placenta including all the length of cord that is not taken for genetics examination* and membranes in 10% formalin as soon as possible to prevent autolysis. The pot should be sufficiently large enough to allow fixation and optimum histological examination, about 10 to 12 inches in diameter and larger than the diameter of the placenta.

EXTERNAL PLACENTA REQUESTS
Always complete a 'Request Form for Histological Examination of Placenta'. These can be obtained from Paediatric Histology if required.

Please note, all samples MUST be delivered directly to Paediatric Histopathology not to a transport drop off point and double check you have correctly labelled the sample with the patient's details and included a request form.

5.11 Molecular Diagnostics

Molecular Diagnostics is situated over two floors, 4th Floor Paediatric Histology and 5th Floor Research. This service offers Fluorescent in -Situ Hybridisation (FISH) for soft tissue tumours and neuroblastomas (turnaround time of 3-4 days) involving approximately 30 probes. The department utilises a Leica DM2500 Fluorescent Microscope and image capture system and is enrolled in UKNEQAS for Cytogenomics (CEQAS) quality assurance scheme. Any clinician wishing to request FISH should discuss this with the reporting Pathologist. It is not appropriate to contact the laboratory directly to request FISH.

5.12 Immunohistochemistry

The Paediatric Immunohistochemistry Laboratory is situated within the Paediatric Histopathology on the 4th floor of the Children's' Hospital and provides IHC testing for our ISO 15189 accredited histology service. We currently house an automated Ventana Ultra BenchMark staining machine which we use to carry out our routine clinical work. We are enrolled in the UKNEQAS ICC quality assurance scheme.

https://mft.nhs.uk/the-trust/other-departments/laboratory-medicine/histopathology/paediatric-histopathology/immunohistochemistry-antibody-repertoire/

5.13 Electron Microscopy

We offer electron microscopy via the electron microscopy suite in Clinical Sciences Building.

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.

5.14 Referrals

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
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
Mitochondrial Studies Muscle	NSCAG Newcastle-Dental Hospital Newcastle University -Medical School
Cytogenetics, Second Opinion	Christie hospital
Immunofluorescence on skin biopsies	Leeds Teaching Hospital

6 Communication of Results

6.1 Reports

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. Authorised Reports are available within electronic paper records (ICE) additionally paper copies are sent to Clinicians.

Histology Reports

Email	**paed.hist@mft.nhs.uk**
Fax	0161 701 2249

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, but on request, authorised reports can be faxed to dedicated hospital fax numbers and General Practitioners.

6.2 Turnaround Times

Urgent Frozen Section specimen arrival	Report within 20 minutes of biopsy in the laboratory
Tumour Specimens	Initial verbal report within 1- 10 days depending whether biopsy or resection
Renal Transplant Biopsies	Initial verbal demonstration and discussion within 24hrs
Rectal Biopsies	Initial verbal report within 24hrs
Non-urgent/Routine Specimens	Departmental rules: 70% of cases within 14 days, however, clinicians are encouraged to contact the pathologists to discuss complex cases. Specimens containing bone or teeth may take longer to report. RCPath Key Performance Indicators (KPI) target is to report 80% of all specimens within 10 days (except those requiring decalcification)

N.B. If the specimen arrives on a Friday the laboratory needs to be notified if an urgent report is required to ensure a member of staff is available at the weekend to process the biopsy.

6.3 Clinical Advice

The pathologists and technical staff are available by phone, e-mail or in person in the laboratory to give clinical or technical advice such as sampling requirements for specific samples. In addition there are regular clinical meetings and an annual user survey where the users can inform the laboratory of any problems or seek advice.

Advice may be sought in the department during normal laboratory hours (08:30 – 17:30). Outside of these hours the on call pathologist may be contacted via switchboard.

CLINICOPATHOLOGICAL MEETINGS

Speciality	**Date / Time**	**Location**
Weekly		
Oncology MDT	Thursday 8.45 – 9:45h	X-ray Seminar Room
GI Meeting	Monday 11:00 - 12:00h	Oncology Seminar Room
Leukaemia MDT	Thursday 14:00- 15:00h	Oncology Seminar Room

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Specialty	Date / Time	Location
Monthly		
Muscle Biopsy	3rd Tuesday of the month 16:00 –17:00h	Oncology Seminar Room
Renal	1st Wednesday of the month14:00 14:30h	MINT Seminar Room
PICU mortality (RMCH)	1st Tuesday 12:00 – 13:30h	PICU Seminar Room
Neonatal Mortality (St Mary's)	3rd Monday of the month 13:00 to 14:00	NICU Seminar Room
Perinatal Mortality (St Mary's)	Last Friday of the month 14:30-15:30h	Labour Ward Teaching Room
Fetal MDT	2nd Friday of month 14:00-15:00	NICU Seminar Room

Specialty	Date / Time	Location
Other		
Urology	4th Thursday every 2 months 14:30-15:30h	Oncology Seminar Room
Mitochondrial	Quarterly/ Half yearly	Oncology Seminar Room
Surgical Teaching Session	Quarterly Monday 10-11am	Oncology Seminar Room
Genetics Pathology/ Radiology	Bimonthly 3rd Thursday 14:00-15:00	Genetics 6th Floor Seminar room 1
DSD Clinical Meeting	Quarterly	Harrington Building

7 Enquiries and Complaints

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 on the contact information below.

Laboratory Manager/ Lead Biomedical Scientist		
Sally Wood	0161 276 6138	Sally.Wood@mft.nhs.uk
Emma Jacobs	0161 701 1722	Emma.jacobs@mft.nhs.uk

Directorate of Laboratory Medicine

Complaints are managed through the PALs (Patient Advice and Liason Service) and Trust Risk Management Service Ulysses. Any complaints made direct to the Department are passed to PALs for investigation.