Histopathology
(Including Mortuary Services)
Birmingham Children’s Hospital
Handbook for Users

General Contact:
0121 333 9833

Check the Birmingham Women’s and Children’s Hospitals web site:
https://bwc.nhs.uk/laboratories
1 Introduction to Histopathology ................................................ 4
Services Provided ........................................................................ 4
Service Scope ............................................................................. 4
Service Standards/Quality Assurance .......................................... 5
Service Commitment .................................................................. 5
Intended Audience .................................................................... 5

2 Useful Contacts ................................................................. 6

3 Information Governance ......................................................... 7
Data Protection ............................................................................ 7
Concerns, Comments, Complaints and Compliments .................... 7

4 Service Location & Availability ................................................. 8
Location of the Department ......................................................... 8
Service Hours ............................................................................. 8
Normal Working Hours ................................................................ 8

5 Specimen Collection, completion of the request form and
management of urgent and additional requests ............................. 9
Consent ..................................................................................... 9
Specimen Collection ................................................................... 9
Instructions for the completion of the request form ....................... 10
Electronic Requesting (ICE) .......................................................... 10
Specimen labelling and minimum data set .................................... 10
Provision of Request Forms, Specimen Containers and Formalin .......... 11

Urgent Specimens ...................................................................... 11
Add-on Tests / Verbal requests ..................................................... 11
Criteria for acceptance and rejection of samples ......................... 11
Specimen rejection ..................................................................... 12

6 Transportation of samples to the laboratory ............................. 13
Low Risk Diagnostic Specimens (UN3373): ..................................... 13
High Risk Infectious Specimens (UN2114): ..................................... 13
Internal Transport for routine samples (in Formalin) ...................... 13
Internal Transport for urgent and fresh samples ......................... 14
Air Tube ..................................................................................... 14
Instructions for sending samples from an external source .............. 14

7 Examinations offered by the laboratory ....................................... 15
Routine Histology ....................................................................... 15
What happens to a specimen? ...................................................... 15
Processing of histology samples .................................................. 15
Urgent Specimens ..................................................................... 16
Intraoperative procedures .......................................................... 16
Rapid processing: ..................................................................... 16
Fresh Tumour Biopsies ............................................................... 16
Renal Biopsies .......................................................................... 16
Rectal Biopsies .......................................................................... 17
Muscle Biopsies .......................................................................... 17
Cytology specimens .................................................................... 17

1

2

3

4

5

6

7

Title Histopathology
Handbook

Page 2 of 32

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HISTOPATHOLOGY – BIRMINGHAM CHILDREN’S HOSPITAL

Health and Safety Considerations ...................................................... 18
   Formaldehyde Spillages ................................................................................... 18
   Sample requirements, transportation and H&S considerations Quick reference
guide ................................................................................................................ 20

8 Mortuary Services .............................................................................. 23
   General Information .............................................................................. 23
   Human Tissue Authority .............................................................................. 23
   The Bereavement Care Services ......................................................... 23
   Key Bereavement Documents ...................................................................... 24
   Requesting a Post Mortem Examination ............................................ 24
   Guidelines for the handling, labelling and transportation of children to
   the mortuary ................................................................................................. 25

Release ........................................................................................................ 25

Viewing Requests by Parents and Relatives ........................................ 25

9 Reports, turnaround times and availability of clinical advice... 26
   Reports ........................................................................................................ 26
   Turnaround Times ........................................................................................ 26
   Availability of Clinical Advice and Interpretation .................................. 26
   Multi-Disciplinary Meetings (MDTS) .......................................................... 27

10 Work Referred Away ........................................................................... 28
   Cytogenetics .................................................................................................. 28
   Muscle Biopsies ............................................................................................ 28
   Nerve Biopsies ............................................................................................... 28
   Liver biopsies for Iron Estimation ................................................................. 28
   Bone requiring mineralisation, osteoclast and thickness analysis .......... 28
   Referral of Routine Histology Cases ............................................................ 28

Second Opinions .............................................................................................. 29

Appendix 1 Referral Laboratories ................................................................ 30
1 Introduction to Histopathology

Services Provided

The histopathology department provides a comprehensive specialised paediatric pathology service. The service covers the whole spectrum of paediatric pathology, including a wide range of biopsy and surgical specimens, transplant biopsies (liver, small bowel, kidney), CNS and neuro-muscular biopsies, FNA and other cytology specimens (BAL, CSF), and autopsies. The Department is keen to undertake research with the medical staff, but plans for this should always be discussed in advance with the Consultant Histopathologists.

In addition to standard histochemical techniques, a wide range of immunohistochemical stains, used for example for tumour typing or detection of viral antigens. Enzyme histochemistry for diagnosis of Hirschsprung's disease and metabolic or neuromuscular degenerative diseases is available.

We provide an electron microscopy service for investigation of renal (glomerular) disease, metabolic and infectious conditions, and occasionally of tumours. In collaboration with CCLG we act as a local tissue banking facility for storage of frozen tumour samples. Furthermore we are involved in various clinical meetings (MDT’s) and interdepartmental research projects.

Due to the nature of our workload in histopathology, our efficiency depends to a large extent on your cooperation. Your compliance with a few rules concerning safety, specimen identification and transport will greatly help us to deliver the service you need.

We hope that this handbook outlines all the information you require to use our service. However, please feel free to contact us to discuss any problems or issues you may have. Any comments or suggestions about the User Handbook should be addressed to the Quality lead.

The department may refer some tests externally. Please see section 10 for further details

Service Scope

The Histopathology department at Birmingham Children’s Hospital is a UKAS (United Kingdom Accreditation Service) accredited medical laboratory number 9890.

It is the intention of the laboratory not to use of the accreditation symbol on histology reports, but we will notify our users by of our UKAS accreditation by adding the following disclaimer to all reports:

“The Histopathology department at Birmingham Children’s Hospital is a UKAS accredited medical laboratory (No.9890). Our accreditation is limited to those activities described on our UKAS schedule of accreditation. Please contact the laboratory for further information.”

The department recognises that this handbook is not a UKAS controlled document, and as such, users are encouraged to check the scope of accreditation via the UKAS website for full and accurate information:

https://search.ukas.com/#/tabbed/search?q=Birmingham%20Women's&ati=1
Service Commitment
We aim to be a model of excellence in the delivery of a clinical pathology service. In order to achieve this, we are committed to the following:

- Service user involvement
- Good professional practice & evidence-based practice
- Efficient utilisation of resources
- Valuing our staff in order to realise their full potential
- Commitment to the health, safety and welfare of our patients, staff and visitors
- Keeping a safe environment in compliance with current environmental legislation
- Working as teams and partnerships
- Continuous improvement

The purpose of this handbook is to provide information on the Histopathology Department laboratory service including test repertoire, specimen requirements and details on accessing our service. It also provides pre-analytical information and guidance to laboratory service users when requesting tests and includes:

- Laboratory contact details
- Location of laboratory
- Opening hours
- Details of services provided
- Instructions for completing sample and request form information
- Arrangements for transporting samples to the laboratories

Intended Audience
All users of laboratory services at Birmingham Children’s Hospital
# Useful Contacts

<table>
<thead>
<tr>
<th>Histopathology Contacts</th>
<th>Phone No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant Paediatric Histopathologist</td>
<td>Dr Claire Bowen</td>
</tr>
<tr>
<td>Consultant Paediatric Histopathologist</td>
<td>Dr Andre Coetzee</td>
</tr>
<tr>
<td>Consultant Pathologist (Liver)</td>
<td>Dr Rachel Brown (Monday only)</td>
</tr>
<tr>
<td>Consultant Pathologist (Renal)</td>
<td>Prof Alec Howie (Friday am only)</td>
</tr>
<tr>
<td>Locum Pathologists</td>
<td>9833</td>
</tr>
<tr>
<td>Pathology Manager</td>
<td>Mr Darren Redfern</td>
</tr>
<tr>
<td>Histopathology Section Lead</td>
<td>Mrs. Sue Cavanagh</td>
</tr>
<tr>
<td>Quality Lead</td>
<td>Mrs. Susan Sharpe</td>
</tr>
<tr>
<td>Office Manager</td>
<td>Mrs. Cathy Mclennan</td>
</tr>
<tr>
<td>Main Laboratory</td>
<td>9825</td>
</tr>
<tr>
<td>Office fax</td>
<td>9831</td>
</tr>
<tr>
<td>Mortuary</td>
<td>(Histopathology Office)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Useful Contacts</th>
<th>Phone No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HTA Designated Individual</td>
<td>Dr Jim Gray</td>
</tr>
<tr>
<td>Bereavement Officer</td>
<td>Ms Lorraine Sarson</td>
</tr>
<tr>
<td></td>
<td>Bleep</td>
</tr>
<tr>
<td>Confidential Email Address:</td>
<td><a href="mailto:Bereavement.CareServicesDept@bch.nhs.uk">Bereavement.CareServicesDept@bch.nhs.uk</a></td>
</tr>
<tr>
<td>On Call Clinical Coordinator</td>
<td>Via switch</td>
</tr>
</tbody>
</table>
3 Information Governance

Data Protection
Information is a vital asset both in terms of the clinical management of individual patients and the efficient management of services and resources. It plays a key part in clinical governance, service planning and performance management.

Your personal data is data which by itself or with other data available to us can be used to identify you. We are Birmingham Women’s and Children’s NHS Foundation Trust, the data controller. Our Trust is registered with the Information Commissioner’s Office (ICO) to process personal and special categories of information under the General Data Protection Regulation (GDPR) and Data Protection Act 2018 (subject to parliamentary approval) and our registration number is Z6078102.

The department complies with the Trust policies relating to the handling, use and protection of personal information (add document here)

- 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 case, for example sending the information to another laboratory for testing
- The data will be stored in accordance with The retention and storage of pathological records and specimens (5th edition) Guidance from The Royal College of Pathologists and the Institute of Biomedical Science, April 2015. We do not store any information for any longer than is absolutely necessary.

For more information, please click on the following link to read the Trusts Privacy Policy. This data protection and privacy policy sets out how we will use your personal data when you access our website. You can contact our Data Protection Officer at Birmingham Children’s Hospital, Steelhouse Lane, Birmingham B4 6NH if you have any questions.

https://bwc.nhs.uk/privacy-policy

Concerns, Comments, Complaints and Compliments
Pathology Services operates a complaints system in line with the Trusts Complaints Policy ‘Making Experiences Count Policy’.

Complaints, comments or feedback regarding the services provided by pathology can be made verbally or in writing (letter or email). Please contact the Pathology Services Manager or the Quality Manager.

If you have any concerns, comments, suggestions for improvement or compliments regarding any aspect of the Histopathology department, please contact the Section Manager.

If you feel that your concerns have not been put right you can make a formal complaint:

https://bwc.nhs.uk/complaints

Please refer to trust documents and MAN109 –Procedure for Assessment of User Comments, Staff Comments and Complaints.
4 Service Location & Availability

Location of the Department
The Histopathology Department is located on the second floor in the Pathology block located on Whittall Street. (https://www.google.com/maps/@52.4862928,-1.8937414,17z?hl=en)
Access can be obtained directly from Whittle Street or internally via the coloured walk way off the hospital ground floor main corridor.

The Mortuary and Rainbow Room Suite are located on the ground floor in the Pathology block. Access to the Mortuary (for hospital staff) can be obtained by contacting the Histopathology Department or Bereavement Officer.
For Funeral Directors, access to the Mortuary Release area is via Whittall Street. Please contact the Histopathology department for access to the barrier (0121 333 9833).

Laboratory postal address  Delivery address for couriers
Dept. of Histopathology  Pathology Reception
Paediatric Laboratory Medicine Dept. of Histopathology
Birmingham Children’s Hospital Paediatric Laboratory Medicine
Steelhouse Lane Birmingham Children’s Hospital
Birmingham Whittall Street
B4 6NH Birmingham

Service Hours
Normal Working Hours
The histopathology department is open from Monday to Friday, 9.00 am to 5.00 pm.

The Mortuary is open from 9.00am to 5.00pm. Any enquiries after 5.00pm should initially be referred to the Bereavement Officer or the Ward.

No releases shall be undertaken between 12:30pm and 2:30pm. Releases after 5:00pm should be arranged with the clinical co-ordinator and ward staff.
5 Specimen Collection, completion of the request form and management of urgent and additional requests

Consent
Unless written consent is required for a particular test or investigation (this will be documented in the test details), the laboratory assumes that informed consent for testing to be carried out has been given at the time of the request form has been completed.

It is the responsibility of the requesting doctor to obtain consent for specimen collection and the tests requested. It is implicit in the receipt of the request form that consent has been obtained. We never request more sample than we need to but where there is material left over after laboratory testing, it may be used for other purposes such as quality assurance or audit, under the provisions of the Human Tissue Act 2004. Specific research is regulated separately by the ethics committee. Consent for the use of tissue requires that patients must be given the option to refuse permission for spare material to be used. When this occurs, each request to the laboratory must be clearly marked so that specimens are not used for other purposes.

There may be specific requirements for written consent for DNA tests sent to other countries, please contact the molecular genetics laboratory for further information.

Specimen Collection
Due to the specialist techniques that will be carried out in the laboratory, we do ask that specimens are collected and transported to the laboratory in the correct manner to reduce the risk of deterioration and delays in reporting (see section 7).

The department will collect renal biopsies from wards or theatre, thus ensuring the correct tissue is taken at biopsy. Please contact the laboratory to organise collection times.

For muscle biopsies, please contact the laboratory to ensure specimen collection meets the sample requirements.
Instructions for the completion of the request form

The laboratories have well established acceptance criteria which need to be present for samples to be accepted and processed. All essential items need to be present on the form to ensure that patients are uniquely identified so that results are not allocated to the wrong patient, and that the correct test can be performed and reported to the correct clinician and sent to the correct location.

It is the responsibility of the requesting clinician to complete the correct request form fully. Errors or incomplete information WILL result in the delay in specimen processing and reporting.

To comply with laboratory procedures, we will only accept samples where all mandatory information and minimum patient identifiers are provided. The following essential information is required:

<table>
<thead>
<tr>
<th>Essential Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>NHS Number / Hospital Registration Number</td>
</tr>
<tr>
<td>Surname</td>
</tr>
<tr>
<td>Forename</td>
</tr>
<tr>
<td>Date of Birth</td>
</tr>
<tr>
<td>Identification and location of requestor</td>
</tr>
<tr>
<td>Investigation required</td>
</tr>
<tr>
<td>Date and time of collection</td>
</tr>
<tr>
<td>Specimen Type, where appropriate the anatomical site of origin</td>
</tr>
<tr>
<td>Relevant clinical information</td>
</tr>
<tr>
<td>Fasting or dietary status</td>
</tr>
<tr>
<td>The date of the onset of symptoms or date of contact</td>
</tr>
<tr>
<td>Details of antibiotic therapy and drug therapy</td>
</tr>
<tr>
<td>Biohazard warning label</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Desirable Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient address</td>
</tr>
<tr>
<td>Recent transfusion history (where relevant)</td>
</tr>
<tr>
<td>Any anticoagulant agents administered</td>
</tr>
<tr>
<td>Contact phone number / bleep</td>
</tr>
<tr>
<td>Indication of the urgency of the request</td>
</tr>
<tr>
<td>Gender</td>
</tr>
<tr>
<td>Medical Specialty</td>
</tr>
<tr>
<td>NHS/PP category</td>
</tr>
</tbody>
</table>

Electronic Requesting (ICE)

There is no electronic requesting for Histopathology requests.

Specimen labelling and minimum data set

Due to medico-legal considerations, all unlabelled or mislabelled specimens will require identification and verification prior to processing. The same applies to specimens arriving with no form, a mislabelled form or insufficient data.

The specimen must be labelled with the following information:

1. Surname
2. And two from:
   - Forename
   - Date of Birth
   - Registration number
   - Referring laboratory specimen number
Provision of Request Forms, Specimen Containers and Formalin
Please contact the Histopathology Office on 9833

A wide range of containers including the small 60ml pre-filled (yellow topped) biopsy containers are available from the department and can be collected during opening hours. Formalin is also available during working hours, please contact the department for details.

The formal saline solution provided by the department for renal biopsies can be obtained from the histopathology department during opening hours. The solution must not be further diluted. Formal saline is toxic chemical, personal protective equipment must be worn when handling such solution.

Urgent Specimens
Urgent specimens such as rapid transplant biopsies, rectal suction biopsies or cytology specimens will usually be reported on the same day as received providing that the specimens are received by the laboratory by 13.00hr. If urgent specimens are received later than 13.00hrs they will usually be reported the following morning. Please contact the laboratory if you would like the specimen to be processed urgently, and clearly indicate this on the request form.

High Risk Specimens
All biohazard specimens known to have, or there is a suspicion of infection MUST be clearly labelled with a “DANGER OF INFECTION” label attached to the request forms and the specimen container. Please place specimen container in a clear, sealable polyethylene bag before placing it in the request form pocket, i.e. 'double bagging'. This is necessary for the protection of the porters and laboratory staff.

All specimens that are deemed to carry a “High Risk” of infection will be kept in formalin for a minimum of 24hrs (dependent on the size of the specimen) before they are handled.

Add-on Tests / Verbal requests
All specimens are kept for approximately 4 weeks following authorization. Blocks and slides are kept for a minimum of 30 years should additional testing be required. Any additional tests must be arranged through direct contact with the reporting Consultant.

Criteria for acceptance and rejection of samples
Request forms and specimens are the key source of data for any department. The details on the request form, form the information that is entered onto the Laboratory computer system, Telepath which enables results to be available on the Laboratory reporting system ICE. If any detail is missing on either the request form or sample, there is a risk that the specimen may be rejected. The criteria is clearly stated in ‘Instructions for completion of the request form’ and ‘Sample labelling and minimum data set’.

Due to medico-legal considerations, all unlabelled or mislabelled specimens will require identification and verification prior to processing. The same applies to specimens arriving with no form, a mislabelled form or insufficient data.
Specimen rejection
Specimens must be correctly labeled and accompanied by a fully completed form, in accordance with the Policy for the Acceptance and Rejection of Samples (REC052).

Rejection of specimens is covered by 2 categories:

a. Unacceptable
No specimen will be accepted by the laboratory if:

- The specimen is unlabelled
- The request form is not completed
- Any specimen arrives without a request form
- Any request form arrives without a specimen
- Any specimen without matching details on request form and specimen container.
- Any infective specimens arriving in a broken container
- Any known infectious specimens arriving without appropriate hazard labelling and packaging.
- Any combination of the above

All of the above specimens will be returned directly to their source for completion/verification of missing details. If the source is unknown, the specimen will remain in the Histology Department but no further action will be taken until appropriate details are completed by telephone call or personal visit from the Clinician.

b. Partially Accepted
This category includes any specimen on which some of the necessary details are missing.

The minimum level for acceptance in this category will be the provision of:

- unit number
- patient's name
- Consultant.

If the remaining details can be completed by a telephone call to theatre, Consultant/House Officer etc., the specimen can then be fully accepted and dealt with accordingly.
6 Transportation of samples to the laboratory

All specimens must be handled with care and treated by all personnel as a potential infection risk. However, additional precautions are required for samples that are deemed to be high risk.

Low Risk Diagnostic Specimens (UN3373):

The majority of specimens collected and transported to the pathology departments do not present a significant risk of infection to staff handling them. These may be considered “low risk” diagnostic specimens. Such specimens will normally be packaged in a primary container (e.g. blood tube, swab tube, specimen pot), and an outer secondary container (a sealed pathology transport bag or sealed plastic bag). All specimens must be accompanied by an accurately, fully completed pathology request form which must preferably be integral and external to the bag. The tertiary container used to transport specimens around and between hospitals may vary in design, but must comply with the P60 specification outlined in this Policy.

High Risk Infectious Specimens (UN2114):

Some patients may be suffering from, or be suspected of having a disease which may present higher risk to staff. Legislation requires specimens from such patients to be identifiable.

- The specimen containers and pathology transport bags used for these specimens will be identical to those used for routine specimens. The identification of risk associated with these specimens will be by the use of “DANGER OF INFECTION” labels. The specification for these labels is given in Appendix C.
- It is the legal responsibility of the person who requests the laboratory examination of the specimen to ensure that both the request form and the container are correctly labelled to indicate a danger of infection. “DANGER OF INFECTION” labels must only be used for specimens which are suspected of or are known to contain pathogens.

Internal Transport for routine samples (in Formalin)

Most histology specimens should be received in formalin unless there is a need for specialised techniques, when the case should be discussed with the laboratory before leaving theatres (contact 9833).

- Make sure you always wear appropriate Personal Protective Equipment (PPE) when handling specimens.
- Make sure the container used is the appropriate one for the purpose, is properly closed and is not externally contaminated by the contents.
- Make sure the pathology request form has not been and cannot be contaminated.
- Make sure the container is labelled with the patient’s registration number and NHS number, full name, ward / department etc. Use hospital stickers whenever possible.
- Make sure that the specimen is packaged and stored in a suitable and safe manner and in a suitable place, whilst awaiting transportation to the laboratory.

Surgical and cytological specimens will be collected and delivered to the Histopathology Department by pathology staff. This is done twice daily and arrives in Histology at 10am and 3pm.
Internal Transport for urgent and fresh samples
If your specimen is urgent or fresh, please contact the department prior to taking the specimen and deliver the specimen by hand to the Histopathology department.

To find out what container you should send the specimen in, please refer to section 8.

Air Tube
Please DO NOT send any Histopathology samples in the air tube.

Instructions for sending samples from an external source
Specimens collected outside the hospital should be delivered using the correct packaging that complies with national guidelines and sent via hospital transport, courier or taxi. The department should be notified in advance of any urgent or special requests.
7 Examinations offered by the laboratory
This section of the handbook explains which examinations are offered by the laboratory, including (as appropriate) information concerning samples required, sample volumes, special precautions, biological reference intervals and clinical decision values.

Routine Histology
All routine histology should be submitted in formalin. Use a pot that is appropriate to the size of the specimen, allowing for an appropriate 1:5 tissue to fluid ratio where possible.

- Transfer the specimen to the fixative solution as soon as is practicable after its removal from the patient.
- Ensure that the lid is securely fastened.
- For transportation (where the pot size allows), the pot should be placed within a sealable plastic bag with pocket for the request form.
- Always keep the request form and the specimen pot together and ensure that patient confidentiality is protected.
- Store the specimen in a secure area until collection by the general portering services.

What happens to a specimen?
Histological specimens are usually placed into a fixative solution of 10% buffered formalin immediately after excision. Specimens are fixed for a minimum of 12 hours before being examined by a pathologist. The pathologist records the macroscopic appearance and for large specimens selects the pieces to be processed. Small biopsies are processed completely. The tissue is then processed overnight. The next day wax blocks are prepared and slides cut and stained for the pathologist to report.

Processing of histology samples
Tissue processing takes hours before sections are available. Please allow adequate time for processing and examination before enquiring on report progress.

Tissue from specimens are selected and processed overnight or over the weekend, in readiness for reporting the next working day. Delays in reports may be expected if extra fixing, special techniques or procedures or re-sampling is needed. For example,

- Large specimens like bowel or breast will need at least 24 - 48 hours fixing.
- Special staining techniques are needed for liver, lymph nodes, lungs, kidneys and tumour biopsies.
- Decalcification of bone or other calcified tissue can take several days.

In such cases it may be possible to issue an interim report.
Urgent Specimens

Urgent specimens such as rapid transplant biopsies, rectal suction biopsies or cytology specimens will usually be reported on the same day as received providing that the specimens are received by the laboratory by 13.00hr. If urgent specimens are received later than 13.00hrs they will usually be reported the following morning.

Intraoperative procedures

Intraoperative procedures including frozen section diagnosis smear or squash preparations for intraoperative diagnosis or assessments of adequacy of biopsy material. **Specimens from known infectious patients should not be sent for this procedure.**

We ask to be notified in advance by our colleagues, so that we can respond to your request in a timely fashion. Please do not forget to include your contact details on the request form.

Theatre/clinical staff are advised to send the samples in a suitably sized container without any fixative. **Do not submit them in saline.**

These specimens should be delivered to the department with as little delay as possible (ideally in these circumstances the specimen should be delivered by hand and not placed into the POD system) to avoid delays in reporting.

Rapid processing:

Same day paraffin section service for urgent biopsies (typically transplant biopsies). Specimens must be received by 1.00 pm (1300 hours) and request for rapid processing indicated on the form. Please notify laboratory staff and consultant on rota in advance. Results will be available by 4.30 pm.

**Fresh Tumour Biopsies**

All tumour specimens, whether benign or malignant, biopsies or resections, should be submitted fresh, to allow appropriate workup.

Biopsies are best placed in a moist chamber (see above for instructions), to avoid drying. Do not submit them in saline. Please notify the laboratory in advance.

If fresh tumour biopsies (trucut biopsies etc.) are to be sent to the department from theatres the theatre/clinical staff are advised to send the samples in a moist chamber (a universal rinsed out with saline and then the biopsies attached to the wall of the universal or a piece of moistened gauze placed into a universal container and again the biopsy placed on the all of the container) to avoid drying. **Do not submit them in saline.**

These specimens should be delivered to the department with as little delay as possible (ideally in these circumstances the specimen should be delivered by hand and not placed into the POD system) to avoid delays in reporting.

**Renal Biopsies**

Renal biopsies are submitted fresh, to allow freezing for immunofluorescence or enzyme histochemistry, and sampling for EM. In the case of renal biopsies, these may be collected by laboratory staff after prior notification to the department (the department must be notified at least 1 day in advance of the biopsy being performed).
Rectal Biopsies
Fresh rectal biopsies for the diagnosis of Hirschsprung’s disease are to be sent to the department from theatres. Theatre/clinical staff are advised to send the samples in a moist chamber (a universal rinsed out with saline and then the biopsies attached to the wall of the universal or a piece of moistened gauze placed into a universal container and again the biopsy placed on the all of the container) to avoid drying. Do not submit them in saline.

These specimens should be delivered to the department with as little delay as possible (ideally in these circumstances the specimen should be delivered by hand and not placed into the POD system) to avoid delays in reporting.

Muscle Biopsies
Muscle biopsies should also be submitted fresh to the department. Ideally 2 specimens should be submitted: a 1.5cmx0.5cm longitudinal piece and a further 0.5x0.5cm piece should be placed either dry into a dry universal container or wrapped in cling film and then placed in a universal container.

These should then be delivered by hand as soon as possible (within 10 minutes of taking the specimen) to the Histopathology department and not placed into the POD system.

The department should be notified of the impending muscle biopsy as soon as possible so that handling arrangements may be made. For urgent/out of hours muscle biopsies, the Histopathologists must be contacted for advice.

Skin biopsies accompanying the muscle biopsy should be sent directly to the Biochemistry department.

Cytology specimens
Cytology specimens are to be submitted in a tight container. Following prior discussion with the pathologist, urgent BAL’s are processed and reported the same day if they reach the department before 3.00pm. Please indicate contact number for results.
Health and Safety Considerations
Please ensure:
- All areas that use formalin have appropriate spillage kits
- All specimens and request forms are packaged correctly
- All specimen lids fit securely
- Specimen pots and request forms are clean externally (i.e., no blood stains)
- All request forms are labelled adequately including any ‘High Risk’ or ‘Urgent’ information

Information on the Control of Substances Hazardous to Health (COSHH) guidelines can be obtained from the department.

Formaldehyde Spillages
- Evacuate area where spillage has occurred.
- Ensure all doors to this area are sealed.
- Inform a senior member of staff.
- Retrieve Formalin Spillage Kit from spillage cupboard (in routine lab/Trimming room/mortuary).
- Place laminated Formalin spill notices on all access points to room with spillage.

Small Spillage (<500ml)
- Wear the following;
  - Formaldehyde Respirator
  - Nitrile Gloves
  - Goggles
  - Laboratory coat
  - Apron
  - Blue over shoes
- For very small spillages, use paper towels or absorbent cloth to soak up spillage

- Place the formalin soaked towels/cloths into the sink of the dissecting table
- For larger spills, sprinkle formalin spill granules around the perimeter of the liquid. Continue to apply inward until all the liquid is absorbed.
- Carefully mix and add more granules if necessary to absorb the liquid.
- The formalin should solidify in 10-20 minutes. NB solutions of 10% or less may take longer and may produce slurry rather than a solid mass.
- Clear up the mass with towels or dust pan and brush and place into yellow plastic bag
- Label bag as appropriate for clinical waste and dispose of accordingly
- Wipe contaminated area with water to remove residual Formalin
- Using formaldemeter take measurements
  - If below 2ppm allow access back into room
  - If above 2ppm leave room sealed and re-test every 30 minutes until below 2ppm
Large Spillage (>500ml)

- Wear the following:
  - Formaldehyde Respirator
  - Nitrile Gloves
  - Goggles
  - Laboratory coat
  - Apron
  - Blue over shoes
  - Wet Dry Vacuum (kept in main laboratory)

- Use the laboratory Wet & Dry Vacuum Cleaner to draw up any spillage
- On completely sucking up all the spillage empty the internal container into the sink of the dissecting table.
- Re-assemble and suck up clean water from a bucket to help clean out the pipe work of the Wet & Dry Vacuum cleaner.
- Empty and wash the container thoroughly to remove formalin residue in the dissecting sink.
- Run the cold water to wash down any residual formalin that may still be in the sink.
- Wipe contaminated area with water to remove residual Formalin

- Using the formaldemeter take measurements.
  - If below 2ppm allow access back into the room.
  - If above 2ppm leave room sealed and re-test every 30 minutes until below 2ppm.

**Formalin Hazard Notification:**

<table>
<thead>
<tr>
<th>Toxic by</th>
<th>Inhalation</th>
<th>Skin contact</th>
<th>Ingestion</th>
<th>May cause sensitisation by skin contact</th>
</tr>
</thead>
</table>

**First Aid Measures:**

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>Irrigate thoroughly with water for at least 10 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Remove from exposure, rest and keep warm</td>
</tr>
<tr>
<td>Skin contact</td>
<td>Drench the skin thoroughly with water. Remove contaminated clothing and wash before re-use.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Wash out mouth with plenty of water and give plenty of water to drink</td>
</tr>
</tbody>
</table>


## Sample requirements, transportation and H&S considerations

<table>
<thead>
<tr>
<th>Sample Type and Transport Specifications</th>
<th>Fixative and Handling Requirements</th>
<th>Health and Safety Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routine Histology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport via Pathology staff</td>
<td>Formalin, supplied by laboratory</td>
<td>Formalin can irritate skin, eyes, throat and lungs</td>
</tr>
<tr>
<td></td>
<td>Wear relevant personal protective equipment including gloves and eye protection where appropriate.</td>
<td></td>
</tr>
<tr>
<td><strong>Intra-operative procedures</strong> (including frozen sections for diagnosis)**</td>
<td>Send the samples in a suitably sized container without any fixative. If it is a biopsy please request tissue culture medium from the laboratory and place the specimen in this. Monday – Thursday and Sunday specimens that are taken after hours can be stored in the fridge. Specimens taken on Friday evening or Saturday should be placed in fixative.</td>
<td>Send sample to department as soon as possible after collection. Take relevant precautions for potentially infective material. Do not send fresh tissue for this procedure from patients with a known infectious disease.</td>
</tr>
<tr>
<td>Notify the laboratory in advance of the procedure. Deliver by hand to the histology department.</td>
<td>Wear relevant personal protective equipment including gloves and eye protection where appropriate.</td>
<td></td>
</tr>
<tr>
<td><strong>Rapid Processing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Same day paraffin section service for urgent biopsies (typically transplant biopsies)</td>
<td>Send sample to department as soon as possible after collection</td>
<td></td>
</tr>
<tr>
<td>Specimens must be received by 1.00 pm (1300 hours) and request for rapid processing indicated on the form. Please notify laboratory staff and consultant on rota in advance. Results will be available by 4.30 pm.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rapid Liver Biopsy</strong></td>
<td>60ml (yellow topped) Formalin pot, supplied by laboratory</td>
<td></td>
</tr>
<tr>
<td>Notify the laboratory in advance of the procedure. Deliver by hand to the histology department.</td>
<td>Wear relevant personal protective equipment including gloves and eye protection where appropriate.</td>
<td>Send sample to department as soon as possible after collection.</td>
</tr>
<tr>
<td><strong>Rapid Renal Biopsy (Native)</strong></td>
<td>Formal saline, supplied by laboratory</td>
<td>Formal Saline can irritate skin, eyes, throat and lungs</td>
</tr>
<tr>
<td>Notify the laboratory in advance of the procedure. If Histology staff are required, please contact the laboratory.</td>
<td>Wear relevant personal protective equipment including gloves and eye protection where appropriate.</td>
<td>Send sample to department as soon as possible after collection.</td>
</tr>
<tr>
<td><strong>Rapid Renal Biopsy (Transplant)</strong></td>
<td>Formal saline, supplied by laboratory</td>
<td>Formal Saline can irritate skin, eyes, throat and lungs</td>
</tr>
<tr>
<td>For transplant cases, notify the laboratory in advance of the procedure. Deliver by hand to the histology department.</td>
<td>Wear relevant personal protective equipment including gloves and eye protection where appropriate.</td>
<td>Send sample to department as soon as possible after collection.</td>
</tr>
<tr>
<td><strong>Rectal Biopsies</strong></td>
<td>(No Fixative) Send the samples in a moist chamber (a universal rinsed out with saline and then the biopsies attached to the wall of the universal) to avoid drying.</td>
<td>Send sample to department as soon as possible after collection.</td>
</tr>
<tr>
<td>Notify the laboratory in advance of the procedure. Deliver by hand to the histology department.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do not submit them in saline.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wear relevant personal protective equipment including gloves and eye protection where appropriate.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Sample Type and Transport Specifications

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Fixative and Handling Requirements</th>
<th>Health and Safety Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Muscle Biopsies</strong></td>
<td>(No Fixative) Send the samples in a moist chamber (a universal rinsed out with saline and then the biopsies attached to the wall of the universal) to avoid drying. Do not submit them in saline. Wear relevant personal protective equipment including gloves and eye protection where appropriate.</td>
<td>Send sample to department as soon as possible after collection</td>
</tr>
<tr>
<td><strong>Cytology Specimens</strong></td>
<td>(No Fixative) Send the samples in a universal container. Wear relevant personal protective equipment including gloves and eye protection where appropriate.</td>
<td>Take relevant precautions for potentially infective material</td>
</tr>
</tbody>
</table>

### First Aid in all instances

- **If Splashed**
  - Wash eyes/skin in running water for 10 minutes
- **If Swallowed**
  - Wash mouth and drink plenty of water
- **If Inhaled**
  - Remove to fresh air

### HEALTH & SAFETY

#### Dealing with a Spillage

- **Small spills**
  - Use correct absorbent granules
- **Large Spill**
  - Use spillage kit – seek advice on 9833
8  Mortuary Services

General Information
The Mortuary is situated on the lower ground floor of the hospital. It has facilities for all aspects of infant and paediatric pathology, body storage and viewing facilities. The Trust also has a Bereavement team for support and counselling.

We recommend contacting the pathologist early in the process ideally before obtaining consent from parents.

For advice on documentation, transport and training, or to arrange a viewing, please contact the Bereavement Officer. For out of hours advice, please contact the clinical co-ordinators via switchboard.

For clinical advice and interpretation, please contact the Histopathologist.

If you have any questions on how best to submit your specimen or wish to discuss your case beforehand please do not hesitate to contact us.

Human Tissue Authority
The Human Tissue Authority was created by Parliament as an executive agency of the department of health and regulates organisations that remove, store and use human tissue for research, medical treatment, post-mortem examination, education and training and display in public. For more information click on the link for the HTA website: https://www.hta.gov.uk

Here at BCH, we hold a HTA licence for post mortem examination and research. This licence ensures that we treat all cases, safely, ethically and with proper consent. Click on the link for the HTA reports: https://www.hta.gov.uk/establishments/birmingham-childrens-hospital-11005

There is an appointed Designated Individual (Dr Jim Gray) who is responsible for ensuring that the procedures here at BCH are suitable, carried out by trained competent staff and that all conditions of the licence are complied with.

If you have any questions or queries regarding HTA or our licence, please do not hesitate to contact Dr Gray on 9815.

As licenced premises, we have a responsibility to report any incidents involving our Mortuary (including near misses) to the HTA. The DI is responsible for submitting and managing these incidents. For further information regarding the reporting of incidents, please click on the following link: https://www.hta.gov.uk/policies/post-mortem-hta-reportable-incidents

The Bereavement Care Services
The Bereavement team are managed by Palliative Care and work alongside Histopathology staff in delivering the best possible care for our families.

The aim of Bereavement Care Services is to provide appropriate, effective and culturally sensitive support to families when their child dies, either at Birmingham Children’s Hospital or in the community.
The Bereavement Care Services Co-ordinator (BCSC) is responsible for the co-ordination, care and education of those involved in the death of a child in hospital and the immediate and informed support of bereaved families at the time of death and/or post mortem. The team assist hospital staff with advice, documentation and practical support including the release and viewing of deceased children. They liaise between family, Trust staff and outside agencies e.g. Coroner, Coroner’s Officer, Registrar, Police and Social Services.

Key Bereavement Documents
All bereavement documents can be found on the BWC intranet. Please contact a member of the bereavement team for further details.
https://bwc.nhs.uk/bereavement

Requesting a Post Mortem Examination
An autopsy (post mortem) can provide valuable information to the family and clinicians caring for an individual with regard to the cause of death, the disease processes affecting the patient and the results of treatment.

Many relatives also find comfort in the fact that an autopsy can help to advance medical knowledge and may help other patients in the future. A full understanding of a patient’s illness can help the relatives to adjust to their loss. Doctors, medical students and other health professionals can find it very valuable to see the pathological changes for themselves.

Even after extensive clinical investigations, in at least one in ten deaths the autopsy reveals unexpected and clinically important additional findings, and may change the cause of death. It is not possible to predict accurately which autopsies will show discrepant diagnoses.

Post mortem examinations are regulated by the Human Tissue Authority (HTA). In addition to the relevant legislation, the Human Tissue Act (2004), the HTA has issued statutory Codes of Practice, including one which governs the obtaining of consent for post mortem examination. Any person requesting a post mortem MUST be aware of the requirements of this Code of Practice. The Code of Practice is available from the Bereavement Office and can be found at:
https://www.hta.gov.uk/code-practice-3-post-mortem-examination

The Birmingham Children’s NHS Foundation Trust is licensed under section 16 of the Human Tissue Act 2004 for the following activities:

- The making of a post-mortem examination
- The storage of the body of a deceased person or relevant material which has come from a human body for use for a scheduled purpose
- The removal from the body of a deceased person (otherwise than in the course of an anatomical examination) of relevant material of which the body consists or which it contains, for use of a scheduled purpose other than transplantation

Usually a post mortem will be performed the day after the Post Mortem Consent Form reaches the Histopathology office / Mortuary. In special circumstances post mortems may be done at shorter notice, for instance in the afternoon, if the body has to be removed from the Mortuary quickly.

It is the responsibility of the Clinician / Health Professional seeking consent to ensure that the consent form is correctly completed and
that the family understand what a post mortem entails and how the information it provides may assist them. The parents should be aware that the final report of the examination usually takes around 8 weeks, and sometimes longer. The family may find it helpful to be told the preliminary findings of the examination, which are usually available within 5 working days. They must be made aware that these findings are only provisional and may be subject to change in the light of the histology and other tests that may have been performed.

Guidelines for the handling, labelling and transportation of children to the mortuary

• Ensure the child is wearing identification tags
• Bodies which leak or are to be ‘High Risk’ (biohazard) MUST clearly be identified as such and transported in a body bag.
• Biohazard bodies should have documentation included which indicates the likely route(s) of infection (e.g. airborne, blood borne) – not with the name of the infection itself. If in doubt, please contact the Mortuary or Microbiology consultants for advice.
• Only trained staff should transport the child to the mortuary using the concealment trolley. For training contact the Bereavement team.
• Ensure you sign into the mortuary, noting your name, department and reason for entering.
• Fill in the mortuary register.
• Fill in the possessions record.

Release
Patients can be collected between 9.00am – 12.30pm and 2.30pm and –5.00pm Monday to Friday.

If release of a body is essential at the weekend, please contact the on call clinical co-ordinators via Hospital Switchboard on 0121 333 9999 or alternatively dial 0 if using an internal phone.

Please note that all responsibility for the transportation of bodies (both sending to and collecting from Birmingham Children’s Hospital) lies with the referring Trust.

Viewing Requests by Parents and Relatives
All viewing requests from parents or relatives should be made to the Bereavement Team during working hours. The Bereavement Team can be contacted on 0121 333 8889 or bleep 55394.

Out of hours viewing should be organised with the Clinical Co-ordinators.
9 Reports, turnaround times and availability of clinical advice

Reports
The provision of interpretive comments on reports is an essential role of the Histopathology service. As such, we encourage the medical staff to have discussions with the Consultant Histopathologists and this advisory service provided by them, is available, at any time.

If you wish to discuss a patient, or need specific advice, Consultants can be contacted directly or through the secretaries (9am – 5pm), who will be able to refer you to the consultant in charge of your patient.
Laboratory staff are available for technical advice within working hours, or in special situations (renal biopsies) upon previous arrangement for on-site assistance with biopsy handling.

If you would like to request a specific test or examination, please contact the laboratory (preferably prior to taking the sample) to ensure your request is met. If the sample has already been received by the laboratory, contact the reporting pathologist, who can discuss this request with you.

Turnaround Times
Turnaround times quoted are the anticipated times between specimen receipt in our laboratory and reporting under normal operating conditions. The turnaround times of all tests are monitored.
In respect of surgical cases, the department aims to produce a written report for 90% of the cases within 7 days following receipt of the specimen. More complex cases requiring special investigations (special stains, immunohistochemistry or electron microscopy), may take longer. Once a report has been issued it will be available on the ICE laboratory result system. Post mortem examinations will usually be completed within 8 weeks, unless the case is very complex or an external opinion is sought. In the latter case a preliminary report will be issued.

Availability of Clinical Advice and Interpretation
The provision of interpretive comments on reports is an essential role of the Histopathology service. As such, we encourage the medical staff to have discussions with the Consultant Histopathologists and this advisory service provided by them, is available, at any time.
If you wish to discuss a patient, or need specific advice, Consultants can be contacted directly or through the secretaries (9am – 5pm), who will be able to refer you to the consultant in charge of your patient.
Laboratory staff are available for technical advice within working hours, or in special situations (renal biopsies) upon previous arrangement for on-site assistance with biopsy handling.

If you would like to request a specific test or examination, please contact the laboratory (preferably prior to taking the sample) to ensure your request is met. If the sample has already been received by the laboratory, contact the reporting pathologist, who can discuss this request with you.
Multi-Disciplinary Meetings (MDTS)

The Histopathologists’ participate in a number of different multidisciplinary meetings. These meetings provide an opportunity to discuss histological findings with clinicians, thereby contributing directly to the clinical decision making/patient management process. Further, these meetings fulfil an important educational role and allow for audit of the histological reporting process. Timetables of all meetings are listed:

<table>
<thead>
<tr>
<th></th>
<th>DAY</th>
<th>FREQUENCY</th>
<th>TIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatology</td>
<td>Tuesday</td>
<td>Monthly</td>
<td>To be confirmed</td>
</tr>
<tr>
<td>Gastroenterology</td>
<td>Thursday</td>
<td>Monthly (Every 3rd Thursday)</td>
<td>13:00 – 14:00</td>
</tr>
<tr>
<td>Hepatology</td>
<td>Monday</td>
<td>Weekly</td>
<td>12:00 – 13:00</td>
</tr>
<tr>
<td>Neuro-Oncology</td>
<td>Friday</td>
<td>Weekly</td>
<td>08:00 – 09:00</td>
</tr>
<tr>
<td>Oncology</td>
<td>Monday</td>
<td>Weekly</td>
<td>12:30 – 13:30</td>
</tr>
<tr>
<td>Plastic Surgery</td>
<td>On request</td>
<td></td>
<td>To be confirmed</td>
</tr>
<tr>
<td>Renal</td>
<td>Wednesday</td>
<td>Monthly (Every 2nd Wednesday)</td>
<td>14:15 – 16:00</td>
</tr>
<tr>
<td>Respiratory</td>
<td>On request</td>
<td></td>
<td>To be confirmed</td>
</tr>
<tr>
<td>Retinoblastoma</td>
<td>Friday</td>
<td>2 – 3 per year</td>
<td>To be confirmed</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>Wednesday</td>
<td>2 - 3 per year</td>
<td>To be confirmed</td>
</tr>
<tr>
<td>Surgery</td>
<td>Wednesday</td>
<td>Monthly (Every 1st Wednesday)</td>
<td>12:30 – 14:30</td>
</tr>
</tbody>
</table>

If you have any queries regarding these meetings, please contact the Histopathology Office on 9833.
10 Work Referred Away

The department regularly refers specimens to other specialist centres in order to provide a comprehensive diagnostic service. A full list of the laboratories used can be seen in appendix 1.

Material may be sent (sometimes on a regular basis) to various Pathologists at different hospitals, who specialise in certain areas. Routine work (slides) may be sent for reporting if there is a shortage of pathologist staff, or slides may be sent for a second opinion. In some cases, tissue or blocks may be referred for the work to be performed at a different site.

Each laboratory where work is referred is evaluated and monitored to ensure the quality of performance and that staff (including referral consultants) are competent to perform the requested examinations.

Cytogenetics

All samples requiring cytogenetical testing are sent to the West Midlands Regional Genetics Laboratory, Birmingham Women’s and Children’s NHS Foundation Trust, Edgbaston, Birmingham. B15 2TG.

Muscle Biopsies

All muscle biopsies are prepared here at BCH, but are reported by Dr Federico Roncaroli, from the Department of Musculoskeletal Pathology, RJAH Orthopaedic Hospital NHS Foundation Trust.

Please contact the department before sending a muscle biopsy.

Nerve Biopsies

Please contact the laboratory in advance of sending nerve biopsies. These samples are referred to the Division of Neuropathology at the Institute of Neurology, Queen Square, London, WC1N 3BG. Send a 2.5cm length of nerve (or as long as feasibly possible, depending on the patient’s age).

Please send the tissue fresh.

Liver Biopsies for Iron Estimation

Patients who have iron metabolism problems or iron overload from multiple blood transfusions often have a build-up of iron in the liver. This can lead to chronic liver damage which may require histological assessment of a liver biopsy. If so, a small sample of liver is sent to the Special Haematology Laboratory at the Royal Free Hospital, Pond Street, Hampstead, London, NW3 2QG. The referring clinician shall be invoiced for their services.

Bone requiring mineralisation, osteoclast and thickness analysis

Although the Histopathology department shall send these samples to The Royal Hampshire Hospital, (Glossop Road, Sheffield, S10 2JF), the referring clinician shall be invoiced for their services. Please send the tissue fresh.

Referral of Routine Histology Cases

In instances when an on-site pathologist is unavailable (vacant position, annual leave etc.) or that the workload of the department has increased and extra reporting sessions are required, routine work
is referred to another hospital to ensure that turnaround times are maintained. If this occurs, the department shall notify all clinicians of the change in reporting procedures. Please see appendix 2 for a list of the referral centres used by Histology at BCH.

Second Opinions

There may be cases which will require a second opinion from a specialist from another hospital. Details including names and addresses of laboratories where work is referred is available from the Histopathology Section Manager ext. 9822.

Any histology case which has been referred for external reporting or second opinion shall be documented within the body of the report, noting the name of the pathologist and referral centre.
### Appendix 1 Referral Laboratories

<table>
<thead>
<tr>
<th>Types of Cases / Speciality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytogenetics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Types of Cases / Speciality</th>
<th>Clinician</th>
<th>Handbook/website</th>
<th>Hospital</th>
<th>Department</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cytogenetics</td>
<td>N/A</td>
<td><a href="http://www.bwnft.nhs.uk/healthcare-professional/west-midlands-regional-genetics-laboratory">http://www.bwnft.nhs.uk/healthcare-professional/west-midlands-regional-genetics-laboratory</a></td>
<td>Birmingham Women’s Hospital</td>
<td>Cytogenetic</td>
<td>Cytogenetics Birmingham Women’s Hospital</td>
</tr>
<tr>
<td>Medulla blastoma, GI biopsies</td>
<td>Emonts-le Clercq</td>
<td><a href="http://www.newcastle-hospitals.org.uk/services/childrens.aspx">http://www.newcastle-hospitals.org.uk/services/childrens.aspx</a></td>
<td>Great Northern Children's Hospital</td>
<td>Histology</td>
<td>Great Northern Children's Hospital, Newcastle</td>
</tr>
<tr>
<td>Cytogenetics</td>
<td>N/A</td>
<td><a href="http://www.Molecular.genetics@nuth.uk">http://www.Molecular.genetics@nuth.uk</a></td>
<td>Northern Genetics Service</td>
<td>Cytogenetic</td>
<td>Northern Genetics Service, Institute of Genetic Medicine NE1 3BZ</td>
</tr>
<tr>
<td>Skin</td>
<td>Eleftheriou</td>
<td><a href="http://www.labs.gosh.nhs.uk/laboratory-services/histopathology">http://www.labs.gosh.nhs.uk/laboratory-services/histopathology</a></td>
<td>Great Ormond Street Hospital</td>
<td>Histopathology Department</td>
<td>Camelia Botnar Laboratories, Great Ormond Street, London. WC1N 3JH</td>
</tr>
<tr>
<td>Neuropathology (paediatric)</td>
<td>Thomas Jacques</td>
<td></td>
<td>Heartlands Hospital</td>
<td>Dept of Pathology</td>
<td>45 Bordesley Green East, Bordesley Green, Birmingham. B9 5SSS</td>
</tr>
<tr>
<td>Paediatric tumour</td>
<td>Neil Sebire</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paediatric Pathology (GI, Heart &amp; lung)</td>
<td>M Ashworth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corneas/ Eyes</td>
<td>Phil Luthert</td>
<td><a href="https://eyepath.ucl.ac.uk/docs/eyepath_user_guide_current_version.pdf">https://eyepath.ucl.ac.uk/docs/eyepath_user_guide_current_version.pdf</a></td>
<td>National Hospital for Neurology &amp; Neurosurgery (UCL)</td>
<td>Department of Pathology</td>
<td>11-43 Bath Street, London. EC1V 9EL</td>
</tr>
<tr>
<td>Types of Cases / Speciality</td>
<td>Clinician</td>
<td>Handbook/website</td>
<td>Hospital</td>
<td>Department</td>
<td>Address</td>
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</tr>
<tr>
<td>TFE3 Genetics</td>
<td>N/A</td>
<td><a href="http://www.nuh.nhs.uk/media/2002293/in1641_nuhcep-li-gen001_cellular_pathology_handbook_v6.pdf">Link</a></td>
<td>Queens Medical Centre Nottingham</td>
<td>Neuropathology</td>
<td>A Floor, West Block, Derby Road, Nottingham. NG7 2UH</td>
</tr>
<tr>
<td>Paediatric Tumour</td>
<td>Dr E Cheesman, Dr G Batra, Dr C Sethuraman, Dr A Kelsey, Dr M Newbould, Dr S Bitetti</td>
<td><a href="http://www.cmft.nhs.uk/info-for-health-professionals/laboratory-medicine/histopathology">Link</a></td>
<td>Royal Manchester Children’s Hospital</td>
<td>Paediatric Histopathology</td>
<td>Royal Manchester Children’s Hospital, 4th Floor, Oxford Road, Manchester M13 9WL</td>
</tr>
<tr>
<td>Soft Tissue, bone</td>
<td>V Sumathi</td>
<td>Unknown</td>
<td>Royal Orthopaedic Hospital NHS Foundation Trust</td>
<td>Department of Musculoskeletal Pathology</td>
<td>Robert Aitken Institute of Clinical Research, University of Birmingham, Vincent Drive. B15 2TT</td>
</tr>
<tr>
<td>Skin</td>
<td>Richard Carr</td>
<td><a href="http://www.uhcw.nhs.uk/clientfiles/File/CWPS%20Handbook%20V7%20Jan%202016.pdf">Link</a></td>
<td>South Warwickshire NHS Foundation</td>
<td>Cellular Pathology</td>
<td>Lakin Road, Warwick</td>
</tr>
<tr>
<td>Paediatric cases</td>
<td></td>
<td><a href="http://www.bartshealth.nhs.uk/our-services/services-a-z/p/pathology/for-patients/">Link</a></td>
<td>St Bartholemew's Hospital</td>
<td>Cellular Pathology</td>
<td>West Smithfield, London EC1A 7BE</td>
</tr>
<tr>
<td>PHITT trial, liver cases</td>
<td></td>
<td><a href="http://www.pathology.leedsth.nhs.nhs.uk/pathology/Home.aspx">Link</a></td>
<td>St James’s University Hospital</td>
<td>Department of Cellular Pathology</td>
<td>Level 5, Bexley Wing, Beckett Street, Leeds, West Yorkshire. LS9 7TF</td>
</tr>
<tr>
<td>Muscle</td>
<td>Dr Sewry</td>
<td><a href="http://www.rjah.nhs.uk/">Link</a></td>
<td>The Robert Jones &amp; Agnes Hunt Orthopaedic Hospital</td>
<td>Department of Musculoskeletal Pathology</td>
<td>The Robert Jones &amp; Agnes Hunt Orthopaedic Hospital, Oswestry</td>
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<tr>
<td>Types of Cases / Speciality</td>
<td>Clinician</td>
<td>Handbook/website</td>
<td>Hospital</td>
<td>Department</td>
<td>Address</td>
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<tr>
<td>Paediatric cases</td>
<td>Alan Ramsey</td>
<td><a href="https://www.uclh.nhs.uk/OurServices/ServiceA-Z/PATH/CPGEN/Pages/Home.aspx">https://www.uclh.nhs.uk/OurServices/ServiceA-Z/PATH/CPGEN/Pages/Home.aspx</a></td>
<td>University College London Hospitals NHS Foundation Trust</td>
<td>Cellular Pathology</td>
<td>Room 103, Rockefeller Building, UCHL, 21 University Street, London, WC1 E6JJ</td>
</tr>
<tr>
<td>Head &amp; Neck, teeth</td>
<td>A Warfield Dr T Bates Dr U Pohl Dr S Nagaraju</td>
<td><a href="http://www.uhb.nhs.uk/Downloads/pdf/LaboratoryHandbook.pdf">http://www.uhb.nhs.uk/Downloads/pdf/LaboratoryHandbook.pdf</a></td>
<td>University Hospitals Birmingham NHS Foundation Trust</td>
<td>Cellular Pathology Department</td>
<td>Mindelsohn Way, Edgbaston, Birmingham, B15 2WB</td>
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<tr>
<td>Neuropathology</td>
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<tr>
<td>Liver</td>
<td>Prof Hubscher, Dr D Neil Dr O Caine</td>
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<tr>
<td>Renal</td>
<td>Dr K Skordillis Dr B Vydianath Dr D Neil</td>
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<td>Skin Immunofluorescence</td>
<td>N/A</td>
<td><a href="http://dudleygroup.nhs.uk/services-and-wards/pathology/">http://dudleygroup.nhs.uk/services-and-wards/pathology/</a></td>
<td>The Dudley Group NHS Foundation Trust (Russells Hall Hospital)</td>
<td>Cellular Pathology Department</td>
<td>Pensnett Rd, Dudley, West Midlands, DY1 2HQ</td>
</tr>
</tbody>
</table>