User handbook
Liver Histopathology

Version number 1.1

Author Karen Boniface

Authorised by James Croud

Issued on November 2026

Version Number	Change Details	Date
1.0	New Document	October 2025
1.1	Updated website links after new website launch.	November 2026

Contents

1. Introduction 3
1.1 Purpose and Scope 3
1.2 Responsibilities 3
1.3 Definitions 3
1.4 About Us 3
2. CONTACT US 4
2.1 Contact Address 4
2.2 Telephone enquires 4
2.3 Hours of Opening 4
2.4 Clinical Advice and Interpretation 5
2.5 Staff Contact Details 5
2.6 Consultant Staff Details 6
2.7 Complaints and Feedback 6
2.8 Protection of Patient Information 6
3. Histopathology Information 7
3.1 Making sample requests 7
3.2 Patient consent 8
3.3 SPECIMEN HANDLING REQUIREMENTS 8
3.4 ROUTINE LIVER BIOPSY (NEEDLE) 8
3.5 URGENT PROCESSING 9
3.6 FROZEN SECTIONS 9
3.7 ELECTRON MICROSCOPY 9
3.8 CYTOLOGY SPECIMENS 10
3.9 SPECIMENS RECEIVED OUT OF HOURS 10
3.10 REFERRAL FOR SECOND OPINION 10
4. REQUESTS FOR HISTOPATHOLOGY 11
4.1 TIME LIMITS FOR REQUESTING ADDITIONAL TESTS 11
4.2 TRANSPORTATION OF BIOLOGICAL SAMPLES 11
4.3 REPORTING OF RESULTS (TURNAROUND TIME) 11
4.4 SAMPLE REFERRAL 12
5. References and related information 12

1. Introduction

1.1 Purpose and Scope

This document is designed to provide a guide to the services provided by the liver histopathology department and to provide key contact points for service users.

1.2 Responsibilities

The Operations Service Director and Clinical Lead have overall responsibility for the accuracy of the information in this handbook. Executive responsibility for the upkeep of this document lies with the Liver Histopathology Quality Manager, supported by the relevant service managers.

1.3 Definitions

Term	Definition
ILS	Institute of Liver Studies
KCH	King's College Hospital

1.4 About Us

Liver Pathology is part of the Institute of Liver Studies at King's College Hospital and is under the control of Synnovis group. Synnovis Group is a limited liability partnership between Guy's and St Thomas' NHS Foundation Trust, King's College Hospital NHS Foundation Trust and Synlab UK & Ireland. Synnovis Analytics and Synnovis Services sit within the Synnovis Group: Liver pathology sits within Synnovis Analytics. The corporate functions of strategy, management, finance, human resources and commercial are managed within the Synnovis Group. Synnovis Services manage the laboratory facilities, systems, equipment, consumables and maintenance. Synnovis Analytics manages the operations, diagnostics, research and development and clinical innovation.

The Synnovis Analytics Liver Histopathology Pathology is a UKAS (United Kingdom Accreditation Service) accredited medical laboratory (No.8805); accredited to ISO15189:2022 for the scope described in the UKAS Schedule of Accreditation which can be found on the UKAS web-site: https://www.ukas.com/find-an-organisation.

The Institute of Liver Studies encompasses the clinical service and academic activities (undergraduate and postgraduate teaching and overlapping research) in adult and paediatric hepatology, hepatobiliary surgery and liver transplantation at King's. It was established in 1966 and is the largest specialist center in Europe for the treatment of Liver disease. Patients both from the UK and abroad are admitted for treatment. Annually 10,000 outpatient appointments are held and approximately 230 liver transplants are performed. Institute of Liver Studies consists of Todd, Dawson and Howard wards, the Liver Transplant Theatre, the Liver Intensive Therapy Unit, the Liver Outpatients'

Department, Liver Endoscopy, Paediatric hepatology and the Laboratories (Liver Pathology and Academic laboratories).

Liver Histopathology provides a specialist diagnostic service for the clinical management of liver patients. Although Liver Histopathology primarily supports Adult and Paediatric Liver services, it also provides specialist services to other departments at King's and/or referring clinicians outside of King's. The Histopathology Service provides full diagnostic support to clinicians and surgeons caring for adult and paediatric patients with liver, biliary tree or pancreatic disorders and is renowned as a referral centre both nationally and internationally.

The department comprises 3 Consultant Histopathologists (1.5 additional posts are currently vacant) and a team of Biomedical Scientists who handle 4500 specimens (approx.) annually including liver biopsies, whole or part of organs resection specimens, and referrals for expert opinion from other centres. There is also an active postgraduate pathology teaching programme.

2. CONTACT US

The Liver Histopathology Laboratory is located on the 3rd Floor of the Cheyne Wing, King's College Hospital (Denmark Hill). All visitors should access the department via the main entrance and report to reception where they will be directed to a named individual.

2.1 Contact Address

Liver Histopathology

Institute of Liver Studies

3rd Floor, Cheyne Wing

King's College Hospital Denmark Hill,

London

SE5 9RS

2.2 Telephone enquires

General Enquiries : Tel 020 3299 9000 ext 31208

Technical enquiries (e.g. specimen handling) Tel 020 3299 9000 Ext 32237

2.3 Hours of Opening

The department is open from 09:00 – 17:00, Monday to Friday (except bank holidays)

2.4 Clinical Advice and Interpretation

Phone the general enquiries number and the secretarial staff will put you through to the Consultant Pathologist reporting the case you require.

Alternatively, contact Caroline Robinson, PA to Consultant Histopathologists

Telephone: 020 3299 9000 ext 31208;

E-mail: kch-tr.liverhistology@nhs.net

E-mail: caroline.robinson10@nhs.net

A consultant on-call rota exists; in emergencies or other unusual situations, a consultant can be reached by telephone at any time either through their mobiles or 0203 299 9000 (King's College Hospital switchboard).

2.5 Staff Contact Details

Service and Clinical Lead is Dr M Deheragoda

Telephone: 020 3299 3734

Email: maesha.deheragoda@nhs.net

Service Director of Operations is Khadijah Owusu-Ansah

Telephone: 07522 999032

Email: khadijah.owusu-ansah@synnovis.co.uk

Operations Manager is Mr J Croud

Telephone: 020 3299 6345

Email: james.croud@synnovis.co.uk

Quality Manager is Karen Boniface

Telephone: 07999181198

Email: Karen.boniface@synnovis.co.uk

General enquiries about Liver Histopathology Service should be made to the Service Director of Operations. Enquiries about clinical aspects of the services should be made to the service-specific Service-lead or Clinical-lead.

2.6 Consultant Staff Details

Dr Maesha Deheragoda, Consultant Histopathologist and Clinical Lead in Histopathology

Telephone: 020 3299 4525

E-mail: Maesha.deheragoda@nhs.net

Dr Rosa Miquel, Consultant Histopathologist

Telephone: 020 3299 3734

E-mail rosa.miquel@nhs.net

Dr Yoh Zen, Consultant Histopathologist

Telephone: 020 3299 4627

E-mail: yoh.zen@nhs.net

2.7 Complaints and Feedback

Compliments and Complaints may be made directly to the department, via PALS or via Synnovis Customer Support. Complaints are handled according to the Synnovis Complaints Policy and Procedure located at https://synlab.co.uk/synnovis/our-services/customer-service/

2.8 Protection of Patient Information

All patient information is handled under the terms of the Data Protection Act 2018. All personal information received by Synnovis is dealt with according to the Synnovis Privacy, Data Protection & Cookie Policy which is available at https://synlab.co.uk/privacy-statement-uk/?cmplz_region_redirect=true&cmplz-region=uk

3. Histopathology Information

The Histopathology Service provides the following:

- Histological examination of adult and paediatric liver biopsy specimens and of surgical hepatobiliary and pancreatic specimens (Whipple's procedure), in particular, those arisen from liver transplantation and hepatobiliary surgical services; brush cytology (biliary tree) and fine-needle aspiration (pancreas).
- Wide range of special staining techniques.
- Immunohistochemical and electron microscopic investigations.
- Selected in situ hybridisation (EBER)
- Frozen sections (service temporarily suspended outside normal working hours).
- Expert clinical and technical advice.
- Second opinion on referred cases.
- Participation at MDMs for HPB cancers, hepatocellular carcinomas and neuroendocrine neoplasms.
- Arranging and presenting adult and paediatric liver and paediatric gastrointestinal pathology histology meetings
- Tissue processing, staining and histological examination of liver biopsy specimens on contract basis for regional institutions.
- Photography of specimens

3.1 Making sample requests

All tissue and cytology specimens sent to the laboratory must be accompanied by a request completed on Epic and have an HSC barcoded label fixed to the sample.

The only exception to this will be during instances of Epic downtime whereby the laboratory shall accept samples with handwritten patient details and an accompanying paper request form (available on wards or direct from the laboratory). The sample request (electronic or paper) should also include clear contact details for the requesting clinician. This is required to facilitate contact with the sample referrer if it is necessary to clarify any issues relating to the request for analysis.

Solely verbal requests for analysis will not be accepted. The only exception to this is when a verbal request is made to add additional tests to a sample already accepted for analysis (to be requested via the assigned, reporting consultant).

A paper request should also accompany any external/referral case. This may be handwritten or generated and printed from records.

The request form **must** include the following information:

- Name, date of birth and hospital number
- ID and location of requesting individual
- Date and time of specimen collection
- Type of specimen and anatomical site of origin
- Relevant clinical information
- Identification of priority status
- Origin of patient (NHS / Private / Non UK EU)
- Location(s) to which the results are to be sent

3.2 Patient consent

All patients should give their consent to have samples collected for laboratory analysis. This is the responsibility of the patient's clinician/consultant to complete. The patient will also need to consent to their medical/clinical history being disclosed for their onward care.

The patient should also be informed that it may be necessary to refer their samples on to another laboratory for analysis. If this proves necessary, the department will only share the clinical information that is relevant to the sample request.

3.3 SPECIMEN HANDLING REQUIREMENTS

If malignancy or metabolic disorder (including drug reaction) is suspected, consultation before biopsy/resection may be in order to ensure that tissue can be appropriately processed (sampling for transmission electron microscopy; specialty fixatives). Please speak with one of the consultant histopathologists when planning the biopsy to ensure that tissue is appropriately harvested / stored / fixed. All specimens are to be brought to the Liver Histopathology specimen reception.

Large surgical specimens may be submitted without formalin (fresh) to facilitate tissue freezing during working hours 09:00-17:00 Monday to Friday. A biomedical scientist or MLA is informed of all specimens arriving fresh to the lab so that a Consultant pathologist can be informed, Out of working hours, procedures in LP-HIS-FM-33-Formalin out of hours v1.1 should be followed. This notice is displayed in the specimen reception area.

Otherwise, specimens must be immersed in an adequate amount of 10% formal saline in a large plastic bucket (available in Theatre 3 or in the histology laboratory) and brought to the laboratory as soon as possible.

Note that the penetration of formalin into liver tissue is slow and all specimens must therefore be treated as potentially infectious.

Specimen pots must be labelled with patient name, alphanumeric hospital patient identifier, and patient date of birth.

Failure to fill in a consultation-request form completely, or failure to label specimen pots properly may delay specimen processing and impede interpretation of findings.

3.4 ROUTINE LIVER BIOPSY (NEEDLE)

- The tissue core should be immediately placed (left floating without blotting paper) in a Perspex container with 10% formal saline which is available on the ward or in the laboratory and brought directly to the histology laboratory in the Institute of Liver Studies.
- The exception to this is paediatric liver biopsies where metabolic or other familial liver disease is suspected. A small sample for snap freezing which can be later sent for genetic testing by the clinical team may be undertaken. In these cases, the procedure in LP-HIS-SOP-55-Receipt and storage of paediatric liver samples for cryopreservation is followed.

- Adult liver biopsies may be accompanied by a sample in RNA-later solution as part of the second pass biopsy protocol. These samples are submitted along with the formalin fixed biopsy specimen so that both can be assigned the same accession number.
- All forms should carry the name and contact details of the doctor to whom the report is to be made, and a brief clinical summary.
- Specimen pots must be labelled with patient name, alphanumeric hospital patient identifier, and patient date of birth.
- Failure to fill in a consultation-request form completely, or failure to label specimen pots properly may delay specimen processing and impede interpretation of findings

3.5 URGENT PROCESSING

This service is available Monday to Friday for limited numbers of a few small classes of specimen (generally biopsy material). It must be approved for any particular specimen by both a consultant who clinically attends the patient from whom the specimen originates and a consultant histopathologist. An approved specimen must reach the laboratory by 13:00 to qualify for "urgent processing".

3.6 FROZEN SECTIONS

Frozen section examination is exceptionally performed on needle biopsy specimens. Larger blocks of tissue are usually required. For routine requests during working hours contact the laboratory on ext. 32237, or for out of hours work contact the duty pathologist via the Transplant Co-ordinators by air call. Surgical specimens for frozen section analysis are sent without formalin to the laboratory accompanied by a member of theatre staff who must inform a member of the laboratory staff that a frozen section is required.

Frozen sections on needle core biopsies for transplant donor assessment are always to be agreed in advance with the Consultant Liver Histopathologist on call, via the transplant co-ordinators. These specimens are sent in normal saline or UW solution. Case entry in Beaker for donor samples follows a unique protocol as described in the document: Lab Ordering for Transplant on deceased donor/organ records (available in Epic by pressing the F1 button and scrolling the help menu). The name of the donor should be stated as a comment in the additional information section so that our consultants can include this in their report (as per NHSBT guidelines).

The department is unable to provide a frozen section service on samples known to be high risk (BBV, TB, TSE). Please contact the laboratory if unsure.

3.7 ELECTRON MICROSCOPY

Small portions (1mm) of tissue must be immediately immersed in a small vial containing appropriate EM fixative (readily available in the Lab) and brought to the lab along with the formalin fixed biopsy so that they can be assigned the same accession number.

3.8 CYTOLOGY SPECIMENS

The lab's SOP LP-HIS-SOP-44-Cytology sample collection protocol covers the collection procedure for different types of cytology sample. The specimen is brought straight to the liver histopathology laboratory.

3.9 SPECIMENS RECEIVED OUT OF HOURS

All specimens must be in fixative, unless they are for transplant donor frozen section assessment. Instructions for adding formalin to surgical specimens and for storage of cytology specimens is displayed on the wall in specimen reception. All specimen details must be recorded in the specimens left out of hours form (LP-HIS-FM-66-Specimens left out of hours form) which is in the specimen reception drop-off box.

3.10 REFERRAL FOR SECOND OPINION

Slides bearing stained and /or unstained sections and / or paraffin blocks must be accompanied by the original histopathology report for correct patient identification, adequate clinical information and the Doctor to be appraised of findings (e-mail address telephone numbers will speed up the process). Unless the referring Hospital holds an SLA agreement with the laboratory, the request for second opinion must be made in writing and agreed with one of the Consultant staff.

"Wet tissue" (in formalin or in specialty fixatives) is handled on a contract basis for regional institutions and, on occasion, for consultation specimens from abroad. Similar labelling procedures apply. Duplicate sets of slides bearing stained sections or images illustrating pertinent findings are generally supplied to referring institutions or histopathologists.

4. REQUESTS FOR HISTOPATHOLOGY

4.1 TIME LIMITS FOR REQUESTING ADDITIONAL TESTS

Paraffin blocks are stored indefinitely, so there is no time limit for requesting additional tests on these samples.

4.2 TRANSPORTATION OF BIOLOGICAL SAMPLES

1. All samples must be transported in the appropriate container (advice can be sought from the Operations Manager for Liver Histology)
2. Sample/specimens sent by post or courier must be correctly labelled and packaged (using UN 3373 compliant conditions) and addressed to service-specific Service-lead. If sent by post, special delivery should be used for full tracking of the sample to the Liver Histology Laboratory.

Clearly mark all urgent specimens and any known biohazard such as HIV positive specimens.

4.3 REPORTING OF RESULTS (TURNAROUND TIME)

Targeted turnaround time agreed with users is:

i) Written reports for needle and small biopsy specimens are available within 2 working days. Transplant related biopsy material is available within 1 working day.

ii) Written reports for large specimens requiring fixation and multiple tissue blocks are available within 7 working days. Written definitive reports authorised by one of the consultants are immediately available on EPIC and indicated as "authorised".

Oral reports on routine specimens received before 5.00pm are normally available after 4.00pm on the following day.

Frozen section reports are usually made by phone within 30 minutes of receipt of the specimen.

Other urgent reports can be made within four hours if the specimen reaches the laboratory before 13:00.

To meet internal clinical targets for cancer MDT listing, Cytology sample turnaround time is 4 working days. Most samples will be reported within 2 working days, and 4 working days if cell blocks and immunostaining are required.

Discussions at the microscope of cases of particular interest / importance are encouraged. The most suitable time is between 4.30pm and 5.30pm on weekdays.

Cases referred during the previous week are reviewed by one of the Consultants on Tuesdays at 9.00am (selected Adult cases) and Thursday at 10.00am (all paediatric cases) in the Institute Seminar Room and the Alex Mowat seminar room respectively. MDMs can also be hosted via TEAMS.

Complex specimens can take longer to report.
At discretion, a consultant histopathologist may telephone or otherwise contact a physician or surgeon named on a consultation-request form to communicate results. Such communications are in their nature preliminary. A preliminary report may also be authorised in Epic with instruction that an addendum will be issued following additional specimen examination, testing or second opinion.

4.4 SAMPLE REFERRAL

Samples that require electron microscopy are referred to the Sheffield Teaching Hospitals NHS foundation trust for sample processing, with the electron micrographs being returned to KCH for interpretation. Samples may also be sent to other Tissue Sciences laboratories within Synnovis for Immunohistochemistry with antibodies that are not routinely stocked by the department. Full details for indications for referral can be found in LP-HIS-SOP-34-Histopathology referrals.

5. References and related information

European Committee for Standardization. Medical Laboratories – Requirements for quality & competence (ISO 15189:2022)

LP-HIS-FM-34-Formalin out of hours notice

LP-HIS-FM-66-Specimens left out of hours form

LP-HIS-SOP-34-Histopathology referrals

LP-HIS-SOP-44-Cytology sample collection protocol

LP-HIS-SOP-55-Receipt and storage of paediatric liver samples for cryopreservation

Liver Histopathology Laboratory - SYNLAB UK & Ireland