



1. Introduction

The Department of Eye Pathology (DEP) is a Moorfields Eye Hospital (MEH) department and is situated at the UCL Institute of Ophthalmology (IoO).

The department provides a diagnostic service in ophthalmic histopathology and cytopathology, and it is one of 4 laboratories within England making up the National Specialist Ophthalmic Pathology Service (NSOPS).

NSOPS laboratories are commissioned centrally by the NHS England and are designated Highly Specialised Services. This means that qualifying NHS samples from patients within England, submitted to NSOPS laboratories for examination, are reported without charge to the referring clinician or organisation.

This DEP offers the largest ophthalmic pathology service within the UK and deals with around 5000 diagnostic specimens per annum. We aim to provide a high quality and timely service with provision of expertise in diagnosis by using an appropriate range of techniques including histology, cytology, histochemistry and immunocytochemistry.

The DEP team consists of three Consultant Histopathologists, Laboratory Manager, Biomedical Scientists, Associate Practitioner and clinical administrators.

The DEP is committed and accountable, through legally binding agreements, for the management of all patient information acquired or generated during laboratory operations. This management encompasses privacy and confidentiality. Prior to disclosing any information in the public domain, the laboratory will inform the user about its intentions. Unless the user and/or the patient voluntarily makes information publicly available or there's mutual agreement between the laboratory and the patient (e.g., for addressing complaints), all other data is deemed proprietary and must be treated as confidential.

Patient information originating from sources other than the patient (e.g., complainants, regulators) must be safeguarded confidentially by the laboratory. The identity of such sources must also be kept confidential by the laboratory and not shared with the patient unless consent is obtained from the source.

All personnel, including committee members, contractors, representatives of external organisations, or individuals with access to laboratory information acting on behalf of the laboratory, are obligated to maintain the confidentiality of all information acquired or generated during the course of laboratory activities.

Material may be submitted elsewhere for reporting, expert opinion or for techniques not performed within the department, such as PCR studies (please see Appendix 1 for a list of referral centres). Extra tests like molecular testing which are not covered by the commissioning arrangement will be charged to the referring clinician. When these additional onward referrals are needed, only clinically relevant information will be shared with the destination department.

The department does **not** arrange or provide the following diagnostic laboratory services: microbiology, virology, immunology, haematology, biochemistry, immunofluorescence (including for Mucous Membrane Pemphigoid studies) or advice on control of infection.





The information contained in this User Guide has been developed in conjunction with our users to not just meet their needs and requirements but also includes appropriate advisory and interpretative services. This booklet provides detailed information about the diagnostic Eye Pathology service within Moorfields Eye Hospital, and we hope that it will enable you to make the most efficient use of the service.

2. Useful contacts

The Department of Eye Pathology is situated on the first floor of the Cayton Street Building of the UCL Institute of Ophthalmology.

Postal address

For correspondence and for specimen deliveries:

Moorfields Department of Eye Pathology UCL Institute of Ophthalmology, 11 - 43 Bath Street London EC1V 9EL United Kingdom

Laboratory Opening Times

Core Hours are 0900 – 1700 hours, Monday - Friday, excluding Public/Bank Holidays (England).

NB: There is no out of hours or weekend service.

During the Easter and Christmas period the department will work restricted hours due to building closure.

The EyePath website (<u>meheyepath.moorfields.nhs.uk</u>) is an excellent resource for Pathology information. The website provides up to date news, sample request forms, User Guide and contact details. Information which may benefit users, such as deviations from normal practice, notification of down-time/ closure dates and matters which may impact on examination results.





Key Contacts

Head of Department and clinical Enquiries:

Prof Sarah Coupland

Lead Ophthalmic Pathologist

Email: sarah.coupland7@nhs.net

Head of Life Sciences:

Mr David Essex

Email: david.essex2@nhs.net

General Enquiries:

Clinical Administrator **Tel:** 0207 702 5552

Email: Moorfields.pathioo@nhs.net

Technical Enquiries:

Mrs Samanta Mitchell Chief Biomedical Scientist

Tel: 0207 253 3411 ext6806

Email: samanta.mitchell@nhs.net

The DEP participates in an appropriate accreditation scheme, run through UKAS against ISO: 15189. Our accreditation number is 8609.

3. Histology: Investigation available and specimen requirements

Histopathological examination of biopsy material, either diagnostic or excisional, of any tissue from the eye or its adnexal structures is offered by the DEP. Histology is used to view cells and structures within the sample in a manner which mimics them in situ as much as possible. This allows definitive diagnosis of numerous disease states, which have ramifications for the patient downstream, with regards further treatment(s) and/or excision.

Guidance on which specimens should be submitted for examination may be found at: https://www.rcophth.ac.uk/publications/ophthalmic-services-guidance/

The choice of methodology and appropriateness of the investigation are at the discretion of the consultant pathologist who is guided by details on the clinical request form and knowledge of laboratory methods and current "best practice". A list of the tests which currently form our diagnostic repertoire is in Appendix 2.

Ophthalmologists are free to discuss the methods employed for any given specimen, but the final decision remains a remit of the clinical pathologist. Similarly, patient preparation is the remit of the Ophthalmologist, we ask that you notify us of anything specific which you may have done which may affect our ability to process and adequately report the samples which you send, such as fixation in solutions other than Neutral Buffered Formalin.

All samples should be sent in the appropriate manner, in a fully labelled, leak-proof container with a legibly completed request form. The request form and specimen container **must have** at least three identifiers which unequivocally identify the patient (these are some examples of identifiers: Name (given name and surname), Date of Birth, Hospital Number, NHS number, Age, Address (including postcode) and/or Gender). Additionally, we need to know the name and whereabouts of the clinician requesting the examination, whom the final authorised report will be despatched to. We need to know the type of sample and the anatomical site of origin which is particularly important with ophthalmic samples. Clinically relevant history on the patient is important to give context to the sample itself, as is the date of the sample being taken.





Samples being posted to the DEP should be sent in accordance with UN3373 (http://www.un3373.com/info/regulations/). We strongly recommend the use of specimen despatch/receipt forms to ensure an appropriate custody trail.

Histopathology Specimen Requirements

ALL Histology specimens should be submitted in an appropriately sized leak-proof container containing 10% neutral buffered formalin, the standard fixative for histology samples, at least ten times the volume of the sample itself. These samples should be in pots clearly labelled with all patient identifiers and site of origin of the sample, with an accompanying fully completed request form, which should make mention of any and all samples submitted for investigation.

If for any reason a sample is to be submitted in a solution other than Formalin, please indicate the solution and reason for this clearly on the request form.

No extraneous materials such as swabs, needles, tissues or papers should **not** be placed in the specimen pot.

Fast Paraffin Processing

In cases (usually eyelid tumour surgery) where a lesion is being excised, and subsequent reconstruction depends on knowledge of whether the margins are tumour free, a "fast paraffin" approach may be considered.

This service is labour-intensive and must be booked as far in advance as practical by telephoning **0207 702 5552** or emailing <u>Moorfields.pathioo@nhs.net</u> to ensure availability of both technical and consultant time on the required days. We cannot guarantee availability of both parties if we are not given appropriate notice, at the absolute minimum 48 hours.

When booking, all relevant patient information should be to hand, including the minimum patient identifiers, relevant clinical history, name and contact details of the requesting clinician/service and the dates of both initial and proposed reconstructive surgery.

These samples should be sent to the DEP as per standard histopathology specimens, in formalin at least ten times the volume of the sample itself. These samples should be in labelled pots, with an accompanying fully completed request form.

All samples generated within MEH should pass through Path Services within MEH for logging and dispatch to the DEP. Specimens sent from elsewhere should use priority courier delivery to ensure receipt as quick as possible.

To qualify for a fast paraffin processing the specimen must also follow the required criteria:

 Specimen should arrive at the department ideally no later than 10:30 am on the day of surgery.

Note that the rate of tissue fixation in formalin is approximately 0.5 mm per hour. The larger the specimen, the longer the fixation time. We may not be able to provide a report on very large specimens within the requested time frame, in which case the pathologist will discuss it with the requesting clinician.





Un-booked specimens for Fast Paraffin analysis may not be processed as expediently, leading to poor patient experience.

The department aims for a rapid paraffin turnaround time of 48 hours (excluding weekends).

Unfixed Specimens

No specimen should be submitted unfixed to the ophthalmic pathology laboratory.

Fresh material may be of use in investigation of neoplasia by molecular diagnostic methods, but this must be arranged with an appropriate laboratory by the referring clinician. These fresh samples should not be sent to the DEP, they might be returned to sender with no investigations performed by us.

NB: In cases where sebaceous carcinoma is suspected, specimens should still be submitted in formalin.

Urgent Specimens

It should be indicated on the request form if the specimen requires urgent attention. The reason for the apparent urgency should be clearly explained.

If a report is required by a particular date, this should be indicated on the request form. An attempt will be made to accommodate these requests, but a final report by said date cannot be guaranteed.

4. CYTOLOGY: INVESTIGATIONS AVAILABLE AND SPECIMEN REQUIREMENTS

Cytology is the investigation of small samples of dispersed or dissociated cells and other tissue components devoid of natural tissue architecture.

Specimens for cytological investigations include surface impression cytology and cytology of fluid such as tears, aqueous, vitreous, or fluid from cystic lesions.

Cytological investigation provides a preliminary diagnostic and should not be regarded as providing a definitive diagnosis.

The practice of cytology is challenging and if there is uncertainty about its use in a particular case, it is preferable to discuss the case with the consultant pathologist prior to obtaining the specimen.

Cytology Specimen Requirements

Impression cytology drums should be submitted in a fully labelled pot containing formalin and with a fully completed request form, in a similar manner to histology specimens.

Vitreous specimens: half of the sample should be mixed with an equal volume of 10% neutral buffered formalin, be that in the original syringe or a suitable alternative receptacle (a fully labelled Eppendorf tube or screw top specimen pot). The other half of the sample should be mixed with an equal volume of absolute alcohol, this will be used if required for T or B cells clonality PCR analysis.

Any needles must be removed, and the syringe capped and secured.





Aqueous cytology specimens: should be submitted by mixing an equal volume of 10% neutral buffered formalin in a fully labelled Eppendorf. Indication should be made on the request form that the specimen is fixed.

Note that **all** fluids must be sent in fixative. In case of any queries or concerns please contact the laboratory in advance.

If microbiological investigation is required, the requesting clinician must submit a separate specimen to an appropriate microbiology service.

The DEP will return any microbiology specimens it may receive in error, we will not split samples or forward them on.

5. 'HIGH RISK/DANGER OF INFECTION' SPECIMENS

It is the responsibility of the requesting clinician to indicate on the **REQUEST FORM AND SPECIMEN** if the patient is known or suspected to be within a "State any infection or handling danger" category (e.g. HIV, T.B, Hepatitis B/C etc.), to facilitate appropriate handling.

Specimen Containment

It is the responsibility of the referring clinical/surgical team to ensure that all specimens are submitted to the laboratory in suitable and approved containers.

Approved specimen containers have leak-proof lids and the appropriate hazard warning sign for the fixative e.g. formalin. There should be adequate absorbent material within the container to absorb any spill.

Ensure specimen containers are closed securely and placed inside a sealed specimen bag.

Specimens received leaking or damaged are a danger to all those who encounter them, including theatre staff, porters, and laboratory staff. Histology samples are irreplaceable, once removed they cannot be resampled, if a pot leaks to the extent that the sample integrity is compromised, appropriate diagnosis would not be possible.

Leakage from a specimen container may seriously compromise the diagnostic process. If a specimen is deemed unsuitable for safe processing by the laboratory staff, it may be disposed of and the requesting clinician informed of the problem as soon as is practicable.

6. HOW TO SUBMIT SPECIMENS FOR INVESTIGATION

Request Forms and Sample Labelling

For all specimens submitted to the laboratory, a fully completed request form **MUST** accompany each case. You may use request forms provided by us or by your own local histopathology department, as long as it is suitable for histopathology or cytology specimens.

Request forms must provide for:

- unique identification of the patient.
- a destination for the report and any charging information.





- the laboratory with the clinician contact details (in the event discussion of the case is required).
- date and time of specimen collection/removal and investigations required (e.g. histology/cytology).
- type of specimen and anatomical site of origin
- clinical information so that the pathologist may handle the specimen appropriately and interpret microscopic findings in the proper context.
- an awareness of any health and safety issues with a given specimen.

Please provide complete information on the request form. Failure to adequately complete any portion of a request form may lead to errors or specimen being rejected by the department, the responsibility for which will lie with the referring ophthalmologist.

NB: The patient's NHS number should be stated (when available), as this provides a unique identifier, together with the patient's first and last names, date of birth, gender, hospital number (if appropriate) and ethnicity if of clinical relevance.

Each specimen container, no matter how small, must also be labelled with the appropriate patient identification data (minimum of 3 identifiers e.g. first and last name, date of birth/age, gender and preferably patient's NHS/Hospital No). The information must be consistent with the request form, to prevent errors in specimen and patient identification. Multiple specimens from the same patient should also identify the specimen individually.

Reusable postal boxes (http://www.daklapack.co.uk/medical-packaging/medical-mailing-boxes/set-p650-un3373/8712963012106/) and one use Royal Mail Safeboxes (http://www.royalmail.com/business/services/sending/parcels-uk/safebox) are recommended for samples from outside of Moorfields. These will be returned to sender for reuse where possible.

7. REJECTION OF SPECIMENS

Specimens are rejected in certain circumstances, but we attempt to reduce delay by dealing with these issues promptly.

If there are anomalies with the samples (i.e. discrepancies between the request form and specimen labelling, specimens in inadequately labelled containers or accompanied by inadequately completed request forms) the specimen will not be processed until rectification, resulting in a delay in processing. In the first instance we will attempt to contact you to clarify any issue locally, please ensure contact details are included with every request.

Samples for disciplines other than Cellular Pathology are rejected immediately. These will be returned to sender for forwarding to appropriate departments, such as Microbiology, Haematology and so forth.

The DEP does **not** provide Immunofluoresence (IMF) for Mucous Membrance Pemphigoid studies (MMP), these should be sent directly to an appropriate local centre.

Factors which can affect the performance of examinations:

Inadequate sample size





- Poor/inappropriate fixation
- Inadequate Clinical detail

For these reasons we ask that referring clinicians are generous in providing as much material as possible for examination in a manner which is most useful (i.e. whole resections as opposed to piece meal). All histology samples must be sent in formalin and that as much relevant clinical information is also included.

8. SPECIMEN TRANSPORTATION TO THE LABORATORY

Mailed or Couriered Specimens

Specimens mailed or couriered should be packaged in approved containers and in accordance with the requirements of the delivery service - UN3373 (see section 4). At the very least this is a sealed pot which can withstand a fall from desk height, this should be placed inside a bag with sufficient absorbent material such that any leak would be contained. This should then be placed in a suitable, labelled, postal box for transport.

Hospitals more local to the department may make their own delivery arrangements via porters or delivery van services.

To confirm receipt of specimen(s) by the department, it is recommended that a 'confirmation of receipt fax-back' form, providing the sender's confidential fax number or email address, is enclosed with the specimen(s).

The front desk at the DEP is manned 0700-1800h Monday to Friday. We can only receive Formalin Fixed postal/couriered samples between these hours.

Users at Moorfields Eye Hospital

Moorfields Pathology Services is located in clinic 5, on the ground floor of the main hospital, and is not linked to the DEP, which is located separately at the UCL Institute of Ophthalmology.

All specimens from Moorfields Hospital, its clinics, theatres and/or satellite sites should be sent via Moorfields Pathology Services so that accurate recording and tracking may be made. This includes specimens from private patients, vitreous fluids etc.

Enquiries about histopathology and cytology reports for Moorfields patients should initially be made to Moorfields Pathology Services.

Specimen pots and request forms are available in the operating theatres and to service users at Moorfields Eye Hospital (and satellite sites) from Moorfields Pathology Services.

9. REPORTS

The department aims to provide a timely as well as a high-quality service.

Target turnaround times (from specimen receipt to availability of an authorised report) are within 7-10 calendar days.





It is not always possible to have a final report available within the above stated times. Complex cases may require a sequential series of special investigations, and in the case of referrals from elsewhere, time may be spent awaiting submission of further diagnostic material at our request.

If a report is required by a particular date, this should be indicated on the request form. An attempt will be made to accommodate these requests, but a final report by a particular date cannot be guaranteed.

Uncertainty measurement calculations are available on request. The Department stresses that both macroscopic and microscopic measurements are an approximation and should be viewed within clinical context. The routine processes of fixation, processing, orientation and subsequent staining can affect the size and shape of tissues which can invalidate stated measurements. Issues with measurements that do not meet clinical requirements should be reported back to the department, please see section 11 – User Satisfaction and Complaints.

Reports Database

Clinicians can access authorised reports for patients from their own hospital using Eyepath the web-based pathology database administered by the DEP.

A registration process is required before reports can be accessed and should be requested via emailing the Laboratory Manager. Registration is manual and may take a few days, so clinicians are recommended to register when they first start work in a new hospital.

Unauthorised reports cannot be viewed on the database. Enquiries regarding unauthorised cases may be made by contacting the department. Note that **only** pathologists are authorised to discuss unauthorised reports.

All personal information within the DEP is kept confidentially, only available where necessary to appropriate individuals. EyePath and thus all Patient Identifiable Data (PID) is stored on MEH Servers, behind the highest-level protection, which is in accordance with ISO 27001 – Information Security Management. Further information is available in the department policy D003, Management of Data and Information.

Clinical Advice and Interpretation

Advice to clinicians is readily available at all stages of the diagnostic process, from deciding what material to submit for examination to guidance on interpretation of the final report. All initial enquiries should be made to the Clinical Administrator.

Please feel free to contact the reporting pathologist or one of the other consultants in the department for discussion of individual cases. If discussing a report, please quote the Laboratory Number which appears on the report and uniquely identifies the patient and specimen.





Time Limits for Requesting Additional Examinations

Paraffin wax blocks and stained slides are retained for a minimum of 30 years, should additional examinations be required. Residual tissue is kept for a minimum of three months after report authorisation. It is rare that we retain tissue as we process all of it in most circumstances. Alcohol fixed residual cytological material is also retained for a minimum of three months' post report sign out. After these time limits the material is disposed of in an appropriate manner which maintains patient confidentiality whilst satisfying both local and national guidance. Empty pots are retained for a week post examination, any issues relating to samples should be notified back to the DEP as soon as possible after discovery.

10. USER SATISFACTION AND COMPLAINTS

It is our aim to continually provide, maintain and improve the services of our department so that they most suit the needs and requirements of our users and benefit patient care.

Feedback questionnaires are distributed biennially but, in the meantime, we appreciate any comments or suggestions that you consider would improve the quality of services provided.

Please contact our Head of Department, Professor Sarah Coupland with any comments, commendations, complaints or concerns.

Ad Hoc comments made at MDT or other gatherings may not be acted on formally, so we would prefer direct communication, regardless of the size or severity of your comment, concern or praise.

11. NON-NHS SERVICES PROVIDED BY THE DEPARTMENT

Specimens from Private Patients

The department accepts specimens from private patients, for which a charge will be made to the referring clinician.

A scale of charges and invoicing registration form is available from the departmental clinical administrator on request.

NB: If the status of the patient (i.e. NHS or private) is not correctly declared, the requesting clinician may receive an invoice.

MEH: The request form accompanying such a specimen must clearly indicate that the specimen is from a private patient.

Users, other than MEH: A histopathology request form should be accompanied by a correspondence with the consulting room address (e.g. headed notepaper or a compliment slip) and including some reference (e.g. the patient's hospital number or initials) and requesting clinician's signature.

Alternatively, you may wish to make your histopathology examination request in the form of a referral letter on headed notepaper with the requesting clinician's signature.





Research

Being based in the UCL Institute of Ophthalmology, the ophthalmic pathology department is in an ideal position to provide services to support researchers.

Services can range from technical preparation of small numbers of slides to collaborative work with input from one or more consultant ophthalmic pathologists.

Please contact the department if you wish to discuss a project.

Training

Both ophthalmologists and histopathologists are welcome to spend time in the department if they wish to learn about ophthalmic pathology, either in preparation for examinations or in order to develop a subspecialist interest.

The department does not currently form part of any rotational training scheme, which allows training placements to be tailored to an individual in a flexible manner.

Please contact one of the consultant ophthalmic pathologists if you wish to arrange a training placement.





Eye Pathology User Guide APPENDIX 1. LIST OF REFERRAL CENTRES:

Opinion Pathologists:		
Dr Eduardo Calonje Consultant Dermatopathologist St John's Institute of Dermatology 2nd Floor South Wing St Thomas' Hospital London SE1 7EH	Consultant Pathologist Department of Cellular Pathology The Royal London Hospital Whitechapel Road Whitechapel London E1 1BB	
Dr Alan Ramsay Consultant Haematopathologist UCLH Department of Cellular Pathology The Rockefeller Building 21 University Street London WC1E 6JJ	Consultant Pathologist Ophthalmic Pathology Royal Liverpool Hospital 3 rd Floor CSSB Liverpool L7 8YE	
Consultant Pathologist Cellular Pathology - Histopathology 4th Floor, Rockefeller Building 21 University Street London WC1E 6JJ	Dr Luciane Dreher Irion Consultant Ophthalmic Pathologist Manchester Royal Infirmary Oxford Road Manchester M13 9WL	
Consultant Pathologist Royal National Orthopaedic Hospital NHS Trust Brockley Hill Stanmore Middlesex HA7 4LP	Dr Hardeep S Mudhar Consultant Ophthalmic Histopathologist Department of Histopathology Royal Hallamshire Hospital Glossop Road Sheffield S10 2JF	
Referral laboratories:		
HSL Advanced Diagnostics Histopathology Room 112, 1st Floor. The Rockefeller Building 21 University Street London WC1E 6JJ	East and South East Pathology Partnership Cytogenetics and Molecular Haematology 3 rd Floor Pathology and Pharmacy 80Newark Street London E1 2ES	
Clinical genomics Department The Centre for Molecular Pathology The Royal Marsden NHS Foundation Trust 15 Cotswold Road Sutton Surrey SM2 5NG	Manchester University NHS Foundation Trust 3rd Floor Clinical Sciences Building, Manchester Royal Infirmary, Oxford Road, Manchester, M13 9WL	
Diagnexia 6 Babbage Way, Exeter EX5 2FN 01297 302245		

All the referral centres we regularly refer cases (or work to) are enrolled in appropriate Accreditation schemes. We monitor these at review of this document to ensure that no





episodes of poor performance have been reported and that the output of these departments is clinically and technically relevant.

APPENDIX 2: TESTS PERFORMED AT THE DEP.

Special Stains	Antibody Repertoire	
Alcian Blue	ACANTHAMOEBA	CYCLIN D1
Alcian Blue PAS	AE1/AE3 (MCK)	DESMIN
Congo Red	BAP-1	EMA
Gram Stain	BCL-2	GFAP
Gram Twort	BCL-6	HMB45
Grocott Hexamine Silver	BerEP-4	IgD
Haematoxylin and Eosin	CD3	IgG
Martius Scarlet Blue	CD5	IgG4 (or EP4420)
Masson Fontana	CD10	IgM
Masson Trichrome	CD20	KAPPA
Melanin Bleach	CD21	KI-67
Miller's Elastic Van Gieson	CD23	LAMBDA
Modified Ziehl Neelson	CD31	MEL A
Periodic Acid Schiff	CD34	MNF116
Diastase Periodic Acid Schiff	CD45	MUM-1
Perls Prussian Blue	CD56	NEURO FILAMENT
Von Kossa	CD68	p63
Ziehl Neelson	CD79a	p40
	CD138	RHODOPSIN
	CEA	SMOOTH MUSCLE ACTIN
	CK7	SOX-10
	CK8/18 (CAM 5.2)	S100
	CK12	STAT-6
	CK14	SYNAPTOPHYSIN
	CK19	VIMENTIN
	CK20	VON WILLIBRAND
		FACTOR (FACTOR VIII)
	CHROMOGRANIN A	

Our repertoire is constantly evolving, we validate all our tests and verify it regularly. We are enrolled in External Quality Assurance (NEQAS) for both our Cellular Pathology Technique and Immunocytochemistry tests. We also regularly review in-house stains and antibodies which are not within an EQA scheme for suitability.

During the diagnostic process, we occasionally use research antibodies which have been validated in-house but are not UKAS-accredited for clinical use. We always interpret such antibodies in conjunction with other stains and techniques to provide an integrated report. Our current UKAS-accredited antibodies and stains are listed at: https://www.ukas.com/wp-content/uploads/schedule-uploads/00007/8609-Medical-Single.pdf

APPENDIX 3: FORMAL REPORTING PROCESS.





- 1) Authorised reports are immediately available electronically on Eyepath
- 2) These are sent to the original surgeon and where requested a copy report will go to a second clinician(s) if so named on the request form via email.
- 3) We are happy to receive enquiries about unreported cases during laboratory hours (9-5 Mon-Fri).