

PRUH - Pathology User Handbook

Version number 5.0

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5.0	Updated onto new Synnovis template. Section 6.5 amended to distinguish microbiological and blood sciences specimens. Section 8 information regarding referral labs & reference ranges. Section 15.1 Chemical Pathologist advice added. Section 15.2 amended to ensure that chemistry core hours are consistent.	23/09/2022

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1. Introduction

1.1 Purpose and Scope

This handbook is to inform and assist service users in getting the best from Synnovis Pathology Services at the Princess Royal University Hospital.

The Pathology Department is committed to providing a clinical diagnostic service of the highest quality standard for its users, taking into account their needs and requirements.

This Handbook includes information on:

- Contact details for key staff
- Service levels and hours of operation
- Location of services
- Types of investigation offered
- Types of specimens required and collection conditions.
- Instructions for collecting specimens with a particular emphasis on safety and maintenance of sample validity

Should any service user have any queries in connection with any aspect of the Pathology service, initial contact must be made with the relevant departmental Senior Staff, the Pathology General Manager or the Quality Manager.

This Pathology User Handbook should be user-friendly and intuitive. Suggestions for improving the content for the next edition are welcome.

1.2 Pathology Laboratory

The Pathology department includes the following specialties: -

Blood Sciences [UKAS Accreditation – Reference 20293] Refer to the accredited tests schedule on <https://www.ukas.com/>

- Biochemistry
- Haematology
- Blood Transfusion

Infection Sciences:

- Microbiology
- Virology

Tissue Sciences

- Histology
- Non-gynae Cytology

Support Services:

- Specimen Reception
- Consumable supplies
- Specimen deliveries and visitors to Pathology should always present at the Specimen Reception desk, Level 2, South wing.

- Access to all areas of the Pathology department is restricted to authorised staff only. All entrances into the department are secured by digi-lock or proximity pass access.
- The department operates in compliance with the standards laid out by ISO 15189:2012 and the NHS Antenatal screening programmes, and the legislation regulated by the MHRA and the HTA. The laboratories are registered for training with the Institute of Biomedical Sciences (IBMS).
- The qualified health professionals employed in the department are registered with the Health & Care Professions Council (HCPC) meeting the standards for their training, professional skills, behaviour and health.
- **Clinical advice** and interpretation of results is available during the laboratory routine opening hours.
- **Clinical advice (out of hours)** - contact details and access to clinical advice out-of-hours are specified in each departmental section of this handbook.

PRUH/Pathology Laboratory address	
Location & Postal address:	Pathology Laboratory (Synnovis LLP) Level 2, South Wing Princess Royal University Hospital, Farnborough Common, Orpington, Kent BR6 8ND For Synnovis website: www.synnovis.co.uk
Pathology Site Clinical Lead	
Name:	Dr Mansour Ceesay
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Name:	Gurjit Lindsay
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Pathology Quality Manager	
Name:	Julie Jordan
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1.3 Definitions

Term	Definition
PRUH	Princess Royal University Hospital

2. Pathology Quality Policy

Scope:

The Pathology Service of Synnovis Analytics LLP is legally responsible for the laboratories activities and is part of Synnovis Group LLP. Synnovis Group LLP is a joint venture between Kings College Hospital (KCH), Guy's and St. Thomas' NHS Foundation Trust and Synlab.

The Pathology Laboratories at the Princess Royal University Hospital (PRUH) provide,

- Routine Haematology, Blood Transfusion and Automated Chemistry (Blood Sciences), Infection Sciences (Microbiology & Virology), Tissue Sciences (Histology & Non-gynae Cytology) laboratories and Specimen Reception are located at the Princess Royal University Hospital (PRUH) Site.

Policy

The Pathology Laboratories are committed to providing a service of the highest quality and cost effective service to:

- Hospitals within the KCH NHS Foundation Trust – these include the PRUH, Beckenham Beacon, Orpington (except In-patients), KCH clinics at Queen Mary's Hospital, Sidcup and the Genitourinary Medicine Clinic (GUM) on the KCH Denmark Hill site (CT/GC only)
- General Practitioners within the NHS South East London CCG (Bromley)
- All women (and couples) in the care of KCH on the Bromley & South Sites who are recommended for the antenatal programme offering sickle cell, thalassaemia (SCT) and infectious diseases in pregnancy (IDP) screening
- Her Majesty's Coroners for the boroughs of Bexley & Bromley
- Other users where such arrangements are in place.

The Pathology Service has developed a quality management system and is working towards application and assessment to ISO15189:2012. The purpose of the quality management system is to provide a framework for directing and managing activities carried out by laboratory staff, which is essential to providing a high quality service that meets the needs and requirements of our users.

In order to ensure that the needs and requirements of users are met, the Pathology Service will:

- Operate a quality management system to integrate the organisation, procedures, processes and resources.
- Establish quality objectives and plans to achieve them and review these objectives periodically
- Ensure that all personnel are familiar with the Quality Policy, the Quality Manual and related processes, to ensure user satisfaction.
- Commit to the health, safety and welfare of their entire staff, and visitors to the laboratories.
- Comply with the relevant environmental legislation.
- Be committed to meeting or exceeding the requirements of the standards set for Medical Laboratories to ensure compliance to the ISO 15189:2012 Standard, Blood Safety and Quality Regulations (2005), the Human Tissue Act (HTA 2004), and the NHS Antenatal PHE Screening Programmes; SCT & IDPS
- Uphold professional values and commit to good professional practice and conduct.

The Laboratories are committed to ensuring compliance with the requirements of the ISO 15189:2012 Standard, and to the standards of all relevant accrediting bodies. This includes a commitment to:

- Staff recruitment, training, development and retention at all levels to provide a full and effective service to its users
- The proper procurement and maintenance of such equipment and other resources as are needed for the provision of the service
- The collection, transport and handling of all specimens in such a way as to ensure the correct and safe performance of laboratory examinations
- The use of examination procedures that will ensure the highest achievable quality of all tests performed, in conjunction with CE and UKCA (UK Conformity Assessed) marked kits and validation of in-house assays
- Reporting results of examinations in ways which are timely, confidential, accurate and clinically useful
- The assessment of user satisfaction, in addition to internal audit and external quality assessment, in order to produce continual quality improvement

3. Laboratory Services

3.1 Laboratory Routine Service

Biochemistry – Laboratory operates a 24/7 service
Routine: Monday - Friday: 08.00 – 20:00 (17:00pm – 20:00pm reduced service)
Haematology – Laboratory operates a 24/7 service
Routine: Monday - Friday: 08.00 – 20:00 (17:00pm – 20:00pm reduced service)
Blood Transfusion – Laboratory operates a 24/7 service
Routine: Monday - Friday: 09.00 – 20:00 (17:00pm – 20:00pm reduced service)
Infection Sciences (Microbiology & Virology)
Routine Monday - Friday 09:00 - 17.30 Routine samples; all samples received before 16:30 will be processed that day. Samples received after this time will be processed the following day
Bank Holidays Saturday morning service 08:00 - 13:00, out of hours service 13:00 - 9:00am next working day
Tissue Sciences (Histology & Cytology)
Histology Routine Hours: Monday - Friday, 07:30am - 17:00pm
Cytology laboratory operates Monday - Friday 08:00am -16:00pm
Out of Hours (including Bank holidays): There is no out-of-hours service available

3.2 Urgent Requests

All requests from the Emergency Department (ED) are managed as urgent with a target turn-around time of 1 hour.

Request forms marked 'urgent' will not be processed with any priority in the absence of verbal notification. Results will not be telephoned unless this has been agreed or the results meet the critical telephoning criteria.

For more details, refer to the individual laboratory sections

3.3 Action points for proper use of laboratory service

Where there is inadequate patient identification, poor request form completion and/ or sample labelling there is the potential for results being issued for the wrong patient.

As a result, the Pathology laboratory has set out specific instructions; acceptance and rejection criteria, on the requirement for labelling both specimens and request forms electronic & paper, EPR in secondary care and GP tQuest ordering in primary care.

The criteria for acceptance reduces the number of tests and investigations, which would otherwise not get back to the correct patients records, with potentially fatal consequences. The laboratory stipulates that the correct and accurate completion of patient details on specimen containers and e-requests/forms is essential to achieve a quality pathology service.

There is a professional responsibility to ensure there is positive patient identification to provide safe and effective patient care.

Patient identification data must be confirmed verbally with the patient i.e. surname, forename name and date of birth. It is accepted that there are very rare and exceptional circumstances where this cannot be achieved.

3.4 Synnovis Phlebotomy Service

The Synnovis Phlebotomy hospital adult inpatient, paediatric inpatient & outpatient services was implemented on 1st Nov 2021 – 7 days per week service. This service is **NOT** managed by PRUH Pathology.

PRUH Adult inpatient area/ ward (x2 rounds – depending on area/ward)	07:00 – 10:00 & 13:00 – 15.30 - Mon-Fri
PRUH Paediatric inpatient area / ward	07:00 – 10:00 & 13:00 – 15.30 - Mon-Fri
GP Paediatric outpatients clinic appointments	09:00 – 17:00 - Mon-Fri
Ward round: Saturday & Sunday	07:00 – 12:00 Mid-day

In the event of any query or problem, please contact the

Synnovis Phlebotomy Team Leaders: 01689 864313 / Internal Direct line – 64313

Synnovis on-call number: 07597 018645 (note: Synnovis on-call contact is not always on-site)

Ensure that request forms are completed correctly. The phlebotomist cannot add or alter details on the request forms. Paediatric outpatients arriving for a Blood Test appointment

must be provided with a GP Test Request form by the requestor – phlebotomy staff are unable to print a copy.

Phlebotomy clinics for GP paediatric patients require an appointment; these can be booked by either telephoning or emailing:

☎ 01689 864313

Email: kch-tr.phlebotomy-adult-manager@nhs.net

Paediatric Phlebotomy (16 years and under), appointments must be booked via the GP Surgery.

3.5 PRUH Phlebotomy Service (adults)

GP Patients with special requirements and hospital clinic patients – can be bleed at the PRUH Outpatient C department – walk-in (ticketed) service [09:00 – 17:00 Mon-Fri]

3.6 Direct Access Community Adult Phlebotomy service (adults)

The Trust Phlebotomy service currently continues to manage the Bromley & South sites (Orpington & Beckenham Beacon).

Phlebotomy clinics for GP Adult patients require an appointment; the appointments can be booked by either telephoning or emailing Bromley GP Alliance (BGAL):

☎ 0203 930 0245

✉ www.bromleygpalliance.org

4. Results and Sample Identification

4.1 Hospital Requests

All in-patient and out-patient requests (secondary-care) are ideally made electronically via EPR. There is an icon on all Trust PC desktops.



Paper forms will only be accepted if the system is unavailable and downtime procedures are in operation. Forms are available from the EPR downtime pack on all Trust PC desktops.



Please check that the patient details are correct. If the details on the printed request do not match the details on the wrist-band of the patient, the phlebotomist will not be able to collect the sample and the ward staff/ doctor will be notified.

There are mandatory fields in the EPR form for clinical details, bleep number and telephone extension. Please ensure that all these are completed.

Any paper request forms submitted must comply with requirements:

- Always include the patient's fore name and last name, hospital number and date of birth
- The hospital number is essential, particularly for blood cross-matching requests.
- It is very important to write the patient's name clearly and legibly because it is difficult to retrieve results from the Pathology computers if even one letter in a name is not clear.
- Always include the date of birth (DOB), gender and ethnicity; these can affect the reference range provided for some of the results.
- Complete other details as requested on the form, particularly clinical information including date of symptom onset, the date of the specimen, relevant drug therapy and 'infection risk' information.
- Request forms are ideally signed and dated by those collecting the specimen.
- State on the form if the request has originated from a private patient source.

The requesting doctor must sign the request form, print their name and bleep number legibly to enable direct contact for clinically significant results or queries regarding the request.

4.2 GP Requests

The vast majority of GP test requests are ordered electronically, via tQuest.

As with any tests requests, these electronic request orders must be completed in full, this is to provide the laboratory staff with the correct information in order to:

- Uniquely identify the patient.
- Ensure all required investigations are selected and requested
- Ensure results correct interpretation in the context of the clinical information included
- Ensure reports are returned to the correct destination and requester of the tests

These criteria are essential on all request forms which patients present to the phlebotomist.

4.3 Labelling samples

All samples **MUST** be labelled **ONCE** the specimen is in the container.

If for practical reasons the container must be labelled first, then if the specimen container is not used it **MUST** be discarded immediately considering Information Governance (IG) and the responsibility of ensuring the patient demographics are not compromised.

Specimens must be labelled in permanent ink in the patient's presence. The specimens must be labelled with reference to the request form or system generated labels.

It is not good practice to use the notes to label specimens; you may be looking at the **WRONG** ones.

It is essential that the samples are labelled immediately with the patient's full name, date of birth, and NHS number or hospital number (whichever is relevant).

- If samples are left without having been labelled, there is a possibility there could be confusion with unlabelled samples from another patient.

- The samples should be bagged at the earliest convenience with the appropriate forms and sent directly to the pathology department.
- Never use pre-labelled tubes; label after specimen collection
- Samples must be labelled by the person collecting the sample
- When collecting multiple specimens, at different times, for the same investigations e.g. glucose tolerance tests ensure that each can be clearly identified with the time each specimen was collected.
- All request forms and samples, (blood, urine, tissue or any other) must have all identifiers present.

4.4 Mislabeled specimens

If the sample is unsuitable for analysis in anyway it will not be analysed. This is to avoid risks to patients. The labelling details on the sample must be complete and must match exactly with those on the accompanying request form.

The Pathology department will strictly enforce this policy. The requested analyses will **NOT** be performed on any samples where there is any discrepancy with patient identification.

Sample rejection and discard will be noted electronically on the Pathology computer system and a report issued in the normal manner. Due to internal pressures, the laboratory will not be able to directly inform the requesting clinician that a sample has been rejected and discarded.

Where the rejection and discard policy would be exceptionally detrimental to patient care, i.e. where the specimen is not repeatable perhaps a biopsy or a baseline sample taken before treatment has been administered, analysis or processing will **only** proceed where there is direct contact by the clinician responsible for the patient. A disclaimer will have to be signed by the requester to accept all and absolute responsibility for any and all results on such samples with incorrect, inadequate or illegible labelling processed subsequent to consultation with a Consultant Pathologist responsible for the department in which the requested test would have been analysed.

The report will be annotated with the shortcomings of the request.

The laboratory cannot accept any responsibility for such results and the actions taken.

For labelling of Transfusion samples see section 14.

5. Supplies

Users are requested to maintain adequate supplies. The laboratory is not always able to meet requests on demand.

- Stocks of specimen containers are available from the laboratory using the appropriate requisition order form. These must clearly state the requirements and destination for the consumables.

Requisition Form - Pathology Laboratory Supplies

5 working days' notice **MUST** be given for all orders
Tel: 01689 864321 Email kch-tr.pruhpathstores@nhs.net

Contact details for order:	Name and telephone	
Date: ___ / ___ / 20__	Surgery/Clinic/Ward Address	

- For consumable requests from Trust users, delivery of stores between the south sites is by twice-weekly hospital transport. Allow for 2 working days plus any delivery delay when making your order.
- Whilst every effort is made to meet the needs of users, it is not always possible to fill urgent telephoned orders immediately.
- It is important to rotate stock and ensure that any nearing expiry date is returned to the laboratory for use elsewhere or if expiry has been exceeded, stock is discarded.
- It is the duty of the requesting doctor/ specimen collector (e.g. phlebotomist) to ensure samples are sent to the appropriate dispatch point and onwards to the laboratory.

6. Instructions for the transport of samples to the hospital laboratory

Owing to the unknown nature of a patient sample, it is imperative that pathological specimens are transported in a manner in which potentially infectious material will not pose a potential risk, as it is transferred from one location to another. All pathological samples are capable of transmitting infection, and should be treated as potentially High Risk, they should not be assumed to be free from transmissible diseases.

Therefore, there is a need to ensure that all specimens are safely handled, contained and transported from the patient to and between laboratories.

It is the responsibility of those sending specimens from locations within the Trust but not on the PRUH site, i.e. those areas that cannot deliver samples via the pneumatic tube or by hand, that the correct procedures are observed and that they obtain a supply of the approved containers, labels and transport boxes.

All pathological samples must have:

6.1 Primary receptacle

- Primary receptacle - a primary watertight leak-proof receptacle containing the specimen. The receptacle must be packaged with enough absorbent material to absorb all fluid in case of breakage.

6.2 Secondary packaging

- Secondary packaging - a second durable, watertight, leak-proof packaging to enclose and protect the primary receptacle(s) i.e. the specimen bag
- All samples must be placed in individual plastic 'kangaroo' type sample bags to avoid cross contamination. Any documentation e.g. request forms are to be placed in the separate pocket on the outside of the bag.
- Bags must not be sealed using staples, pins or paperclips.
- Several cushioned primary receptacles may be placed in one secondary packaging, but sufficient additional absorbent material shall be used to absorb all fluid in case of breakage.

6.3 Outer packaging

- The secondary packaging is placed in outer shipping packaging with suitable cushioning material. Outer packaging protects contents from outside influences, such as physical damage, while in transit.
- For postal specimens this will be a UN3373 box
- For cross-site or GP transport this will be a Daniels box

Any specimens that are received leaking or in a dangerous condition will not be processed but will be discarded. In this event the clinician will be informed via a report generated electronically on the pathology computer system.

6.4 Transport of specimens by road

The transport of most specimens from the General Practitioner's surgeries or outreach clinics to the hospital laboratory is provided by Trust transport and service providers who will be familiar with their responsibilities.

If for any reason, pathological samples have to be transported via a contracted transport supplier, the following guidelines must be adhered to,

- The box must not be transported in the same compartment as passengers – but must be placed in the boot of any vehicle or the rear compartment of any van used and firmly secured.
- Mail must not be transported in the same carrier box as specimens.
- The container must be secured using appropriate means whilst being transported in the vehicle.
- Specimens must be transported in a secure transport box with a fastened leak proof lid. (Compliant with IATA Packaging Instruction 650 or 621 and UN3373 or UN3291)

It is the responsibility of those sending specimens from locations within the Trust but outside the laboratory site that the correct procedures are observed and that they obtain and utilise the approved and correctly labelled transport boxes.

Each box must display a biohazard warning sign and must also state that the box must not be tampered with or opened and a telephone contact number included for emergency purposes.

Carriage of pathological specimens between hospitals and/ or GP clinics and the hospital by road comes under the remit of 'The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009, as amended (CDG Regs)' – ADR regulations.

6.5 Inter-hospital site transport

Samples are retrieved from designated collection points at Orpington and Beckenham Hospitals, and the regular inter-hospital transport will collect and deliver the samples to pathology. There are transport runs between the PRUH laboratory and the DH site too.

Samples from patients seen by GP's or patients from community based clinics can leave specimens at the designated collection points at those locations for collection and transport to pathology by the hospital based transport system. They may also deliver samples themselves to the phlebotomy out-patient collection points at Orpington and Beckenham Hospitals, or directly to Pathology Specimen Reception at the Princess Royal University Hospital, Level 2, South wing.


Semen samples for post vasectomy samples can only be accepted at designated times, see below (seminal fluid samples).

To maintain their integrity, specimens must be transported to the laboratory as soon as possible after collection. Delays in the transport of microbiological specimens may cause a loss of viability of fastidious organisms, or an inability to detect potential pathogens because of overgrowth by commensal bacteria. When this is not practicable, store specimens at 4°C until the next available transport. Do not freeze samples, unless specifically requested to do so. Ideally Blood Sciences specimens need to be receipted and prepared on the same day as collection. If the inter-site scheduled transport has finished specimen transfer by other means may need to be arranged.

Contact with the laboratory will be necessary if samples are to be sent requiring urgent results.

6.5.1 Contact details for transport issues

Logistics Manager in Capital, Estates & Facilities contactable via switchboard

 0203 299 9000 Ext. 36623

6.6 Internal Transportation by Pneumatic Tube system

On the PRUH site, specimens are delivered directly to the pathology reception by porters, phlebotomists, doctors and nursing staff or sent by the preferred means of transport using the pneumatic tube system.

The PRUH Pneumatic Tube System (an air tube system) propels cylindrical containers (transport PODs) through a tube by compressed air or by partial vacuum. There are 2 tubes; 1 that served ED alone and another that serves the majority of the rest of the hospital. There are POD stations in various locations across the site, not all wards have one.

Before transporting specimens in the Air Tube senders must ensure that the container lids are properly fastened and the samples are placed in specimen bags.

- Items must first be placed inside a pneumatic tube carrier before being sent in the system.
- All samples must be placed in individual plastic ‘kangaroo’ type sample bags to avoid cross contamination. **(Primary receptacle)**, before being placed into the carrier (transport POD)
- Where there are paper request forms, these must not be placed in the bag with the sample. Place forms into the separate pocket on the outside of the bag.
- If the specimen has to be forced to fit inside a carrier, it is too large and must be either repackaged or delivered to the laboratory by hand.
- Items within the carrier will move around during their journey. In order to prevent breakages, the contents must be protected with absorbent wadding such as paper towels.
- It is important to note that the pods are not leak proof.

It is the senders’ responsibility to ensure:

- The specimen is correctly labelled and packed and accompanied by the relevant paperwork
- The correct colour pod is used - **All items entered into the air tube system MUST be in a pod.**
- The ends of the pod are properly latched
- The pod is sent to the correct destination address

PROHIBITED SAMPLES - The air-tube system must **NEVER** be used for the following samples:-

- Histology samples of any kind, especially in formalin
- 24-hour urine collections
- Non-repeatable fluid samples
- CSF samples
- Blood cultures
- Lower respiratory tract samples e.g. sputum and bronchial washings
- Blood-gas samples in syringes or capillary tubes
- Any samples from patients suffering from CJD, viral haemorrhagic fevers or Hazard Group 4 pathogens*
- Any Pharmacy items
- Empty blood transfusion bags

*Approved List of Biological Agents, Advisory Committee on Dangerous Pathogens HSE (2013)

6.6.1 Breakdowns of pneumatic-tube system

If you suspect the system is not working, put a notice on the station saying ‘temporarily out of order’ and contact Vinci (Facilities) by contacting the ISS helpdesk on 63377. The system is not the responsibility of the laboratory and therefore they cannot resolve functionality issues.

7. Health and Safety precautions

Health & Safety at Work Act

It is the duty of every employee to take reasonable care for the health and safety of their self and other persons who may be affected by their actions or omissions at work.

Specimens must be packed correctly. It is the responsibility of the requesting doctor or the staff collecting and sending the sample to ensure that the specimen is transported safely and arrives in the laboratory. Laboratory responsibility starts when it arrives in pathology.

7.1 Inoculation (sharps) Injuries

- Current guidelines must be followed so as to avoid needle stick injuries to those taking, transporting and processing samples.
- When blood gas specimens are sent for analysis in the original syringe, it is absolutely prohibited for the needle to be left on the syringe. The syringe must be sealed using an approved cap. Specimens arriving in the laboratory with the needles still in situ will be discarded immediately without processing.

7.2 Infectious Hazards

General requirements and good practice:

- If a Pathology paper request order form is used do not contaminate with the sample.
- Ensure that the sample container is correctly sealed.
- All samples must be placed in individual plastic 'kangaroo' type sample bags to avoid cross contamination. (Primary receptacle) – refer to section 4.7 above
- Under the Health & Safety at work Act, it remains the responsibility of the requester to provide information about potential or known high-risk samples. This information should be provided with the clinical details.

8. Results

8.1 Reporting results

Where references ranges are applicable for results, they will be published on the report with the test result.

Where examinations/ investigations are referred, this will be annotated on the report and further details on referral laboratories are available on request.

IT IS THE RESPONSIBILITY OF THE CLINICIAN REQUESTING THE TEST TO ENSURE THAT THE RESULT WILL BE VIEWED AND ACTED UPON APPROPRIATELY

Once investigations are complete and the results authorised,

- Internally, where the request has been made in a secondary care setting, the LIMS is interfaced with EPR and electronic reports are transmitted as reports are authorised and will be available for review.

- Where the request has been made in the primary care setting, using tQuest or not, the report will be delivered to the GP EMIS system. As results are authorised, they queue ready for the next result launch which happens at 15 minute intervals.

For those surgeries or external requesters that receive results in hard copy, reports are printed and posted daily.

8.2 Telephoning results

Results will only be telephoned through to the clinician or clinical area in circumstances where the results meet the critical telephoning criteria and urgent clinical intervention may be required.

Where results are critical for primary care patients, in surgery hours these will be communicated to the requesting GP. Outside surgery hours the results will be communicated to the Out of Hours provider contactable via the NHS 111 service.

8.3 Validity of results

Quality assurance programmes are in operation to ensure satisfactory accuracy and precision of all tests. Even so, random errors can occur and may escape detection in the laboratory. Often the Clinician is well placed to detect such errors and is responsible for following up any discrepant results.

If there is doubt about the validity of any result, the laboratory should be contacted immediately. By informing the laboratory of a suspected issue, sometimes it can serve as an alert to a wider problem which can be corrected as soon as possible.

Most samples are kept for a minimum of three days (dependent on laboratory test requested and sample validity). During this time, it is usually possible to check results for some analytes; some samples/ analytes may deteriorate.

8.4 Interpretation of results

Although reports are checked for clinical feasibility before results are released for reporting, because not all the clinical information is available, the requesting clinician has to take the ultimate responsibility for the interpretation of the report. Many factors can influence a Pathology result, and these need to be considered.

If the result does not fit the clinical situation, alert the laboratory and discuss this with a senior member of staff who are always willing to discuss the accuracy and confidence limits of any test, selection of appropriate tests and the significance of any result.

8.5 Actions taken by the Clinician – But these are not dictated by the Labs

The actions to be taken by the clinicians will vary depending on the severity of the result. Escalation of results will also be dependent on the requesting source. If requested by a hospital clinician they may escalate the result to their consultant if required or act on the result as part of the treatment plan and/or inform the patients GP. The timescale for action will also depend on the severity as a very abnormal result could be life threatening therefore action need to be immediate. Actions taken by the clinician or GP will be documented within the patients' health records.

9. Point of Care Testing

The laboratory at the PRUH does not participate in any Point of Care Testing (POCT) – testing in the near vicinity of the patient. All POCT is managed by the Trust although the laboratory is represented on the POCT committee in an advisory capacity only.

10. Risk Management

The pathology department investigates any relevant incidents reported to them irrelevant of the source. The Trust employs the incident reporting system, Datix and primary care report suspected incidents involving Pathology via the GP Alert system for investigation and reporting outcome.

11. Research

Please refer to www.synnovis.co.uk for information

12. Private Tests

Please refer to www.synnovis.co.uk for information

13. Haematology Department

The Laboratory undertakes routine Haematological investigations, which include FBC, ESR, Coagulation and Thrombophilia.

13.1 Department key contacts

Monday - Friday: 08:00 – 17:00 and Outside of core hours

- Haematology telephone number for results query call Specimen Reception: PRUH 016898 **64266**
- Haematology Laboratory Manager – Lisa Cook Ext: **64262** or email lisacook1@nhs.net
- Haematology Laboratory – Extensions: **64257/64258**
- For clinical advice please contact the Duty Haematology clinician in the first instance – **Bleep 156** or via switchboard
 - **Routine Hours** – contact Haematology secretaries on Ext: **64265**, who will direct your query
 - **Out of hours, weekend and bank holidays** - contact on-call Haematology clinician via switchboard

13.2 Haematology (PRUH) Opening hours

The Laboratory operates a 24/7 service

Routine: Monday - Friday: 08:00am – 20:00 (17:00pm –20:00pm reduced service)

- Non-urgent samples should arrive in Specimen Reception (SR) between 09:00-17:00
- Routine profiles are performed daily (Mon-Fri)

Out of Hours: 20:00 – 08:00am Monday – Friday, and 08:00am Saturday – 08:00am Monday

- Bleep the Biomedical Scientist (BMS) on **Bleep 311** at any time outside normal working for urgent requests

13.3 Location

- Pathology, Level 2, South Wing, Princess Royal University Hospital (PRUH)
- For Synnovis Analytics website: www.synnovis.co.uk

13.4 Sample Requirements

Remember to:

Use the correct specimen bottles and ALL sample labels must include:

- Patient's full name (first name & last name)
- Date of Birth (DOB)
- NHS/hospital number
- Date sample was taken

The details on sample and request **must** match exactly. The laboratory staff cannot alter incorrectly or inadequately labelled samples. The laboratory report will notify the requester of inadequately or incorrectly labelled samples/request forms that will be retained in the laboratory for inspection until the next working day. In addition, rejected requests from SCBU, ITU and ED will be communicated by telephone.

- Ensure the specimen bottle and form (where applicable) are sent separated in a clear sample bag
- Specimen bottles are tightly sealed to avoid leakage in transit
- Inadequately or unlabelled labelled samples will not be processed and will be discarded
- Ensure that requests made via the EPR/ tQuest systems have a barcode label affixed that contain all patient details listed above and include the requested test assays (if the date collected is different to the printed label, amend the date of collection)
- Clinical details, indication for request and date/time of operation (see individual sections) should be indicated on request form or EPR /tQuest request.

13.5 Haematology Critical Phoning Limits

The abnormal/critical results will be communicated directly to a member of clinical staff as soon as they are technically validated. The criteria for critical phoning results are based on the recommendations of the Royal College of Pathologists and these are available on request.

13.6 Tests available on an emergency basis

The following tests are available on an emergency basis for the immediate diagnosis and management of **in-patient** after normal working hours, Saturday, Sunday and Bank Holidays:

Tests	Containers
Full Blood Count; WBC differential, Hb, RBC indices, PLT, WBC	EDTA anticoagulant – all 4ml bottle (purple top)
Retics	EDTA anticoagulant – 4ml bottle (purple top)
ESR	Adult – 4ml bottle (purple top) only
Malaria Screen	EDTA anticoagulant – 4ml bottle (purple top), state country visited and when
Glandular Fever screening test	4ml bottle (purple top) or 5ml bottle (gold top)
Clotting screen	Citrate anticoagulant (turquoise top) – 2.7ml bottle filled to the line
Anti-Xa (Unfractionated Heparin)	Citrate anticoagulant (turquoise top) 2.7 ml bottle filled to the line/arrow

Clauss Fibrinogen	Citrate anticoagulant (turquoise top) 2.7 ml bottle filled to the line/arrow
D-dimer	Citrate anticoagulant (turquoise top) 2.7 ml bottle filled to the line/arrow

13.7 Repertoire

Refer to **Appendix 1- Pathology Blood Test Repertoire** – at the end of this document. Contact laboratory if further information required.

13.8 Key factors known to affect the performance or interpretation of Haematology investigations

Samples may be rejected by the Laboratory for the following reasons as the integrity of the specimen; the reliability of the testing process or the interpretation of results could be affected:

13.8.1 Full Blood Count

- Clots present in the sample
- Sample is more than 24 hours old
- Lipaemia
- Haemolysis
- Exposure to heat or warmth for prolonged periods

13.8.2 Clotting samples

- Clotted samples or presence of small fibrin clots
- Samples >4hrs old (Potential for factor deterioration)
- Samples >12hrs old are unsuitable for analysis
- Lipaemia
- Haemolysis
- Exposure to heat or warmth for prolonged periods
- Under filled samples (sample over diluted by anticoagulant) or overfilled

13.9 Requesting extra tests

- Full blood count (FBC) samples are retained under temperature controlled conditions for a maximum of 3 days. The integrity of the sample for FBC and ESR analysis is no longer valid after a period of 24 hours for FBC. If the sample has been stored in a manner that will maintain its integrity, there are some extra tests that will still be valid up to 7 days after sample collection e.g. Hb electrophoresis.
- Anticoagulant samples are stored for 24 hours under temperature-controlled conditions after which time they are no longer suitable for retesting.
- In circumstances where further or more specialised testing is required, a request must be made as soon as possible within 24 hours after specimen collection so that arrangements can be made for the plasma to be aliquoted and frozen at -20°C.

13.10 ANTICOAGULATION GUIDELINES

Refer to pages on <http://hww-kingsweb>

14. Blood Transfusion

14.1 Department key contacts

Monday – Friday 08.00 – 20.00 (17.00 – 20.00 reduced service) and out of hours:

- Routine Hours - PRUH Blood Transfusion Laboratory – Ext: **64329**
- Out-of-Hours - BT [Bleep 311](#)

Please note - that this is a very busy bleep during the out of hours periods. The bleep will be answered - response may not be instant at busy times. Please be patient and refrain from repeating bleeps in quick succession because the bleep-holder cannot reach you whilst your extension is off the hook.

- **Please note** that during core working hours [Bleep 311](#) is reserved for Major Haemorrhage Code Red/ Trauma use (Hospital use only).
- Blood Transfusion Consultant Haematologist – Contact via switchboard
- For clinical advice please contact the Duty Haematology Clinician in the first instance – **Bleep 156** or via switchboard
- Blood Bank Laboratory Manager – Donna Wiles on Ext: **64249** or email donna.wiles2@nhs.net
- Transfusion Practitioner – Sue Cole s.cole@nhs.net or Hayley Allen hayley.allen2@nhs.net Ext: **64282** or WiFi phone **65423**

14.2 Blood Transfusion (PRUH) Opening hours

The Laboratory operates a 24/7 service

Routine Hours

- [08:00 – 20:00 Monday – Friday \(17:00 – 20:00 reduced service\)](#)

Out-of-Hours

- [20:00pm – 08:00am Monday - Friday](#)
- [All day Saturday and Sunday as well as Bank Holidays](#)

- Routine Group and Screen requests **MUST** be received by 18:00 for guaranteed same day processing
- **During Out of Hours periods, urgent blood and blood product requests MUST be bleeped to the Out of Hours BMS on Bleep 311**
- For special blood product requests (e.g., requests for HLA matched platelets) notification is required 24 hours prior to usage). These cannot be ordered out of routine hours.
- Patient with a history of antibodies **MUST** be discussed with the BMS staff as there may be a delay in blood provision.
- When blood and blood products are ready, a comment notification will be sent to the results section for the patient on the EPR system stating *'Please check Apex for details'*. If unable to access Apex (LIMS) - please call the laboratory for information relating to the availability of blood and blood products.

14.3 Location

- Pathology, Level 2, South Wing, Princess Royal University Hospital (PRUH)
- For Synnovis website: www.synnovis.co.uk

14.4 Sample Requirements

- Group and Screen samples must be taken in Pink Top 6ml EDTA bottles.

All blood transfusion samples **MUST** be labelled with

- Full Name (Surname & Forename)
- Hospital and/or NHS number
- Date of birth
- Date of collection
- Time collected
- ID person taking the sample (or signature if sample is handwritten)

Samples received without a request form will be rejected on the basis that the form was not used to positively identify the patient.

At the patient bedside at the time of venepuncture

- All Blood Transfusion samples **MUST** be handwritten label, unless labelled with a BloodTrack label.
- Any sample with details missing or incorrect in any of these fields will be rejected and a repeat sample required.
- Wrongly labelled samples **CANNOT** be amended once they have been received in the laboratory.
- Incorrectly labelled specimens will be discarded.
- Samples **CANNOT** be shared with another department

Samples labelled with non-BloodTrack addressograph labels are not accepted for blood transfusion. If the sample demographics do not match the sample will be rejected and the ward phoned. If blood is required, inform the laboratory Biomedical Scientist (BMS) on the cross-match bench.

BloodTrackers – Hand held a Personal Digital Assistant (**PDA**) allows ward staff to scan & collect the patient's ID from their wristband, print transfusion sample labels, print Pickup Slips, administer blood components/products and record observations. The BloodTracker also enables direct fating of all units at the bedside when the transfusion is commenced, thus improving traceability and reducing the workload within the laboratory.

14.5 Sample Validity

- Patients transfused or pregnant in the last 3 months: the sample is valid for up to **72 hours** (incl. product reservation period)
- Patient **not** transfused and **not** pregnant in the last 3 months: the sample is valid for up to 7 days

14.6 Instructions for completing request forms

Clerical errors account for the majority of Blood Transfusion Adverse incidents

Requests for blood must indicate:

- No. of units requested and the type of product required
- Time and Date for which blood is required
- Ward or location of patient
- Any special requirements (i.e. irradiated, CMV negative etc.)
- Any previous antibodies detected
- If previously transfused, state when and where
- Urgent requests - telephone the laboratory or out of hours bleep biomedical scientist on duty.

Requests for blood to cover routine surgery:

- Requests where possible should be in the Blood Bank one clear working day prior to surgery - please give a contact ext. or bleep number.
- A previous Group and Screen sample may be suitable for providing cross-matched blood. Contact (PRUH) **64329 Routine Hours** for more information.

14.7 Requests for Blood Products should be made to Blood Transfusion (PRUH)

Laboratory contact extension Ext: 64329

Test	Samples required
Group & Screen/Cross Match	6ml K2E (EDTA) (pink top)
Direct Antiglobulin Test	6ml K2E (EDTA) (pink top)
Kleihauer	6ml K2E (EDTA) (pink top)
Baby group (aged up to 4 months)	1 ml (EDTA) (pink top)

14.8 Useful Links

Refer to pages on <http://hww-kingsweb> by searching for the following topics;

- Blood Transfusion Policy
- Use of Blood Components
- National Blood Service
- Transfusion Reaction Form
- Consent for Blood Transfusion Support and the Patients that Refuse
- Maximum Surgical Blood Ordering Schedule (MSBOS)
- Code Red Policy

14.9 Crossmatch Requirements

- Please give as much notice as possible when ordering blood, particularly if patient is known to have atypical red cell antibodies
- **TWO** valid Group and Screen samples must have been **received** in the PRUH laboratory for cross-matching- these **must** have been **taken on separate occasions**. (X2 samples received together are counted as 1 venepuncture episode.)
- If a patient has been transfused in the past, depending on when the transfusion occurred, a fresh sample may be required – Refer to section on **14.5 Sample Validity** (above).

14.10 Collection of Blood

- When blood and blood products are ready, a comment notification will be sent to the results section for the patient on the EPR system stating 'Please check Apex for details'. If unable to access Apex (LIMS) - please call the laboratory for information relating to the availability of blood and blood products.
- Approved documentation to provide patient identification is mandatory (i.e. prescription chart - ICP)

Before administering any blood it is essential to check that the details on the blood bag and compatibility report match, and the patient has been positively identified (if possible) and the patient ID number on their wristband has been checked.

Check:

- Last name, First Name, Date of Birth and Hospital Number on Blood Component Label and Prescription Form
- Blood component number and expiry date on the unit itself, tag on the unit and Prescription form
- Date, Time and Sign the Blood Bank Register to record collection and removal of the component or follow the Blood Track process for blood collection.
- This is obligatory for recording the **Cold Chain** of blood components; it is a legal requirement

14.11 Repertoire

Refer to [Appendix 1- Pathology Blood Test Repertoire](#) – at the end of this document. Contact the laboratory if further information required.

14.12 Key factors known to affect the performance or interpretation of Blood Transfusion testing

Samples will be rejected by the Laboratory for the following reasons as this may affect the integrity and reliability of the testing process

- Haemolysed samples (e.g. due to poor collection, storage or transport)
- Insufficient samples
- Lipaemic samples
- Samples which have been stored out of temperature control
- Mislabelled/ unlabelled samples

14.13 Requesting extra tests

All blood transfusion samples are stored under temperature-controlled conditions for seven days. Requests for further analysis must be received within this period.

15. Biochemistry Department

The Biochemistry department provides a large range of analytical services.

If you need to request an unusual test please telephone to discuss this before taking the sample. If tests are not analysed in-house, they are sent to a specialist referral centre for testing.

Clinical advice is available from the Consultant Chemical Pathologist and Consultant Clinical Scientist during routine hours and out-of-hours – refer to section below for contact information.

15.1 Department Key contacts

Monday - Friday: 09.00am – 17.15pm

- Biochemistry telephone number for results query and add-on tests call Specimen Reception: PRUH 016898 64266
- Biochemistry Laboratory Manager – John Rainer Ext: **64261** john.rainer@nhs.net
- Core Hours 08:00 – 20:00pm (17.00pm - 20:00pm reduced service) Biochemistry Laboratory - Ext: **64256**
- BMS - Out of hours, weekend and bank holidays: Ext. **64256** or **Bleep 312**
- For **Clinical Advice** please contact the Duty Biochemist:

Routine Hours: Ext **64282 (PRUH)** or if unavailable Duty Biochemist at Denmark Hill – Mobile: **07973456626**. If applicable the enquiry may be referred to the Chemical Pathologist for clinical advice

15.2 Biochemistry (PRUH) Opening hours

The Laboratory operates a 24/7 service

Monday - Friday: 08:00 – 20:00 (17.00 - 20:00 reduced service)

- Non-urgent samples should arrive in Specimen Reception (SR) between 09:00-17:00
- Routine profiles are performed daily (Mon-Fri)

Out of Hours: 20:00 – 08:00, Monday – Friday, and 08:00am Sat – 08:00 Monday

- Chemistry Laboratory - Ext. **64256** or **Bleep 312**

15.3 Location

- Pathology, Level 2, South Wing, Princess Royal University Hospital (PRUH)
- For Synnovis website: www.synnovis.co.uk

15.4 Repertoire

Refer to **Appendix 1- Pathology Blood Test Repertoire** – at the end of this document. Contact laboratory if further information required.

15.5 Sample Requirements

Remember to; - Use the correct specimen bottles (EPR and tQuest labels will inform the type and number of bottles required). ALL sample labels must include:

- Patient's full name (first name & last name)
- Date of Birth (DOB)
- NHS/hospital number
- Date & time sample was taken

- Specimen bottles are tightly sealed to avoid leakage in transit
- Additional tests can often be performed with only a small increase in sample volume - the volumes shown on EPR or tQuest need not always be accumulated.

15.6 Biochemistry Critical Phoning Limits

The abnormal/critical results will be communicated directly to a member of clinical staff as soon as they are technically validated. The criteria for critical phoning results are based on the recommendations of the Royal College of Pathologists and these are available on request.

15.7 Requesting extra tests

Most specimens are stored in the laboratory for 2-3 days, after which time they are discarded. Some specimens are kept for longer.

If additional testing on a specimen previously sent to the laboratory is required within 48 hours of collection, please raise a 'Add-on test' request and forward to the lab

If more than 48 hours has elapsed since specimen collection, please contact a member of the laboratory's clinical staff before proceeding. Some tests require special handling and will be unsuitable to be processed unless specified collection criteria are followed.

Very abnormal results are seen and authorised by clinical staff and they may request additional tests to the request.

16. Cellular Pathology (Histology & Cytology)

Histology

Histopathology is the study of the causes and effects of disease related to changes in the cells and tissues of the body. Tissue samples are studied microscopically to establish the cause of illness. We undertake a full range of routine diagnostic tests; including gross specimens, endoscopic, open biopsies (including skin), needle biopsies and curetings together with immunocytochemistry, frozen sections and OSNA (One Step Nucleic acid Amplification lymph node analysis) services. The service provides essential information to clinicians in the process of diagnosing cancer and other diseases.

Cytology

Cytology is the study of cells. Cellular material can be obtained from any organ or site from the body by different methods such as:

- Natural voiding (urine and sputum)
- Lumbar puncture (cerebro spinal fluid)
- Aspirations from serosal fluids (pleural, peritoneal) or from suspected lumps or cysts
- Surface scrapings/ brushings (cervical sampling and endoscopic brushings)

Cells obtained from these specimens are processed and examined microscopically in the laboratory enabling the cytology department to make benign, pre-malignant or malignant diagnosis.

16.1 Department key contacts

- Histology Main Laboratory - Ext: **64314**
- Histology Cut-up Room Ext: 64317
- Cellular Pathology Laboratory Manager – Lyn Golding - Ext:**65853**
l.golding1@nhs.net
- Histology Secretaries/Results Query – Ext: **64294/64295**
- Cytology Results Query – Ext: **64310**
- For **Clinical Advice** about a case call the histology office on 01689 864294/5 or generic e-mail kch-tr.histology@nhs.net where upon the query will be directed to the relevant Consultant Pathologist

16.2 Tissue Sciences (Cellpath PRUH) Opening hours

Histology Routine Hours: The Histology laboratory operates **Monday-Friday, 07:30 - 17:00.**

- Requests for frozen sections and OSNA analysis **must** be arranged with the laboratory (see table above for contact details) at **least** two working days in advance of any procedure.

Cytology Routine Hours:

The Cytology laboratory operates **Monday - Friday 08:00 -16:00**

Histology /Cytology - Out of Hours (includes Bank holidays) :

There is no out-of-hours service available

16.3 Location

- Cellular Pathology Laboratories, Level 2, South Wing, Princess Royal University Hospital (PRUH)
- For Synnovis Analytics website: www.synnovis.co.uk

16.4 Repertoire - Histology

Routine Histology

- Tissue must be placed in 10% formal saline as soon as possible.
- Use a specimen container that will contain the specimen plus ten times the specimen volume of 10% formal saline if possible. (Containers are ordered from pathology on the appropriate request form)
- Label according to the instructions in section 4.3 and send to the laboratory without undue delay.

Urgent Samples

- Clearly mark the request form **URGENT**. 2WW referrals are indicated with a 'pink' sticker
- Specimens usually require overnight processing for optimum technical results; however in exceptional circumstances it may be possible to process small biopsies during the day. **Please note this does not guarantee a report being issued on that day.**
- Urgent specimens should be brought directly to the laboratory.
- Telephoning the laboratory manager or laboratory would be helpful prior to sending a genuinely urgent sample.

Frozen Sections

- Frozen section diagnosis must be booked by telephone with the laboratory at least two working days in advance.
- Whenever possible the patient should be first on the operating list.
- Arrange for the unfixed frozen section specimen to be brought directly to the laboratory via specimen reception.
- The specimen must be handed to a member of histology staff and must be accompanied with a completed request form. (The form must have details of the theatre as well as contact telephone number for the report to be telephoned through to.
- If the procedure is cancelled the laboratory must be informed.
- Due to the need to maintain and decontaminate frozen sectioning equipment the laboratory may not be able to provide a frozen section service at certain times. Availability of this service can only be guaranteed if the laboratory is given adequate prior notice.

OSNA

- OSNA diagnosis must be booked ideally at least 48 hours in advance of the procedure with the laboratory. Booking is achieved via email with the laboratory team.
- Theatre staff must transport the specimen to the pathology Specimen Reception immediately and hand it directly to a member of the Histology staff together with a completed request form. The form must have all the required details completed i.e. contact details for the report to be telephoned back.
- If the procedure has been cancelled or postponed the laboratory must be informed immediately.
- Due to the need for laboratory preparation prior to the examination, availability of this service can only be guaranteed if the laboratory is given adequate advance notice.
- The cut-off time for receipt of specimens in the laboratory is 16.00 hrs.

High Risk Specimens

- Specimens known to be High Risk cannot be handled unfixed by the department.
- These cases must be immersed in a large volume of fixative before transporting to pathology.
- The nature of the high risk must be clearly legible in the clinical details on the request form. This includes all patients who are known or suspected to have a reportable disease.

16.5 Repertoire – Cytology

Sputum Specimens

- Sample containers and vials **MUST** be fully labelled.
- Sputum specimens should be collected in the early morning.
- Only one specimen per day should be sent.
- No more than three specimens should be sent on any individual patient.
- Sputum specimens for cytology are discouraged in patients with chest infections.
- Avoid sending specimens for 7 - 10 days after bronchoscopy to avoid false positives.

Urine Specimens

- Sample containers and vials **MUST** be fully labelled.
- Urine specimens should consist of the whole or as much of the whole voided specimen as possible in a 30ml universal container.
- Mid-stream specimens are not ideal since abnormal cells are usually present in either the first or last part of the voided urine specimen.
- Urine samples that are unlabelled will not be processed.

****DO NOT USE UNIVERSALS CONTAINING BORIC ACID (Red top)****

Fluid from Pleural, Peritoneal, Pericardial, Joint Cavities and Cysts

- Sample containers and vials **MUST** be fully labelled.
- These samples should be collected in a 30ml universal container.

Fine Needle Aspirates (FNA)

- Fine needle aspirates should be sent to the laboratory previously air-dried &/or wet fixed on glass slides.
- Please contact the laboratory for further details if necessary.

Cerebrospinal Fluids

It is strongly advised that a fresh specimen should be sent to the laboratory within one hour of collection.

- If it is unavoidable to take a CSF sample within the laboratory working hours. Inform the cytology department prior to the samples being taken so that they are aware that a sample has been taken and could arrive out of hours.
- Send separate specimens (using separate request forms) to Microbiology and Biochemistry. It is not ideal for CSF samples to be delayed in processing as it will result in the cell degeneration. However, if cytology are not informed, and a CSF is sent out of hours then it will be kept in the cold storage room and processed on the next working day.

If specimens destined for Cytology are collected outside normal working hours, they should be kept refrigerated until sent to the department.

Bronchial Washings

- Sample containers must be fully labelled
- Fresh specimen should be placed in a clean dry universal container
- Delay in the receipt of unfixed samples can lead to deterioration of specimen
- Do **NOT** use any fixative – such as formalin

Bronchial Brushings

- Sample containers must be fully labelled
- Frosted ended glass slides must be fully labelled
- Prepared slides must be a combination of spray-fixed and air-dried (2 slides are sufficient)
- The collection brush must be placed in a universal container with 20mls Green Cytocollection fluid - ensure the brush is fully immersed with the brush facing towards the bottom of the container
- Contact the cytology department on Ext: 64310 for replacement of green collection fluid
- Do **Not** use formalin fixative

Ovarian Cyst Fluid

- Sample containers must be fully labelled
- Fresh cyst fluid samples should be put into a clean dry universal container with screw cap
- The fluid should be sent as soon as possible to minimise cell deterioration
- If there is a delay in delivering the sample to the laboratory, the sample should be kept in the refrigerator between 4-7°C
- Do **Not** use fixative – such as formalin

16.6 Sample Requirements

Remember to - Use the correct specimen containers and ALL sample labels must include:

- Patient's full name (first name & last name)
- Date of Birth (DOB)
- NHS/hospital number
- Date sample was taken
- Include other relevant clinical history and type of specimen

The details on sample container and request form **must** match exactly. The laboratory staff cannot alter incorrectly or inadequately labelled samples. The laboratory will notify requesters of inadequately or incorrectly labelled samples/request forms that will be retained in the laboratory.

- Ensure the specimen containers and form are sent separated in a clear sample bag
- Specimen containers are tightly sealed to avoid leakage in transit

Inadequately labelled samples will not be processed, until the discrepancy is resolved. Requesters of inadequately labelled Histology requests will be invited to attend the laboratory to amend the labelling and asked to complete and sign a disclaimer to accept full responsibility for any results generated on the specimen and then acted upon.

- Clinical details, indication for the request and date/time of operation should be indicated on request form or EPR request.

16.7 Tests available on emergency basis

Urgent Histology Samples

- Clearly mark the request form URGENT.
- Specimens usually require overnight fixation and processing for optimum technical results; however in exceptional circumstances the laboratory will process 'Fresh Tissue samples', 'Frozen Sections and OSNA' samples during the day. This guarantees a report being issued on that day.
- OSNA samples should reach the laboratory before 16.00 hours.
- Urgent specimens should be brought directly to Specimen Reception.
- Telephoning the laboratory manager or laboratory would be helpful prior to sending a genuinely urgent sample.

Urgent Non-Gynae Cytology Samples

Urgent specimens should reach the laboratory before 14.00 hours unless otherwise specified.

16.8 Requesting extra tests

The examining Histopathologist may request additional staining techniques to be performed, or may be asked by a Consultant at a referral centre for the block to be forwarded for further examination.

Blocks and slides are retained for a period of 30 years and therefore, except in cases where there was only a very small piece of tissue, there will be specimen available for further examination.

The original wet tissue, from which blocks and slides have been made, will be disposed of after completion and authorisation of the histology report, which is approximately 6 weeks.

17. Infection Sciences (Microbiology & Virology)

17.1 Department key contacts

- Infection Sciences Laboratory Specimen Reception /Results - Ext: **64269**
- Microbiology (main) Laboratory – Ext: **64342/64343**
- Virology Laboratory – Ext: **64250**
- Infection Sciences Laboratory Manager – Ricky Stow Ext:**64322** or email ricky.stow@nhs.net
- Contact Duty Consultant Microbiologist for **Clinical Advice** - during core hours call – Tel:[01689 864287](tel:01689864287)
- Outside of normal working hours, contact via switchboard

17.2 Infection Sciences (PRUH) Opening hours

Routine: Monday - Friday: 09:00am – 17:30

- Routine samples (Mon-Fri); all samples received before 16:30 will be processed that day
- Samples received after this time will be processed the following day

Saturday: 08:00 - 13.00

- There is a limited service on Saturdays until 13:00 for essential specimens only

Out of Hours (OOH):

- Monday – Friday 17:30pm-09:00am, and from 13:00pm Saturday – 09.00am Monday

Bank Holiday:

- 13:00- 09:00 the following morning

Any **Urgent** work required out-of-hours must be requested by speaking to the on-call Biomedical Scientist (BMS) on duty. The BMS on duty can be contacted via switchboard

- All Sundays and bank holidays are also covered by an on-call service

17.3 Location

- Pathology, Level 2, South Wing, Princess Royal University Hospital (PRUH)
- For Synnovis Analytics website: www.synnovis.co.uk

17.4 Repertoire

Refer to **Appendix 1- Pathology Blood Test Repertoire** – at the end of this document. Contact laboratory if further information required.

17.5 Additional information pertinent to individual tests / specimen types

Urine specimens for culture

- Patients **MUST** be instructed on the correct method to collect a mid-stream urine (MSU) to avoid contamination and a possibly misleading result.
- Urine specimens **MUST** be collected into boric acid containers (Red top universal containers) or a sterile white topped universal containers and sent to the Microbiology department as soon as possible after collection.
- Specimens should be kept in a refrigerator (not a freezer) overnight if necessary.
- A request form **MUST** give all relevant clinical information, including antibiotic therapy. Clinical information is required by laboratory staff in order to interpret the bacterial growth obtained, in order to report a meaningful result

Results reporting:

- Most negative results for culture and microscopy will be available within 24 hours.
- Positive cultures with identification and antibiotic sensitivity results will usually be reported within 48 hours.
- Antibiotic sensitivity results **WILL NOT** be reported on mixed bacterial cultures (due to probable poor collection and/or storage) unless specifically agreed for clinical reasons with the Consultant Microbiologist.

Urine for TB culture (AAFB)

- This test requires three complete early morning urines collected on three consecutive days into special containers available upon request from the Pathology supplies department Ext. 64321.
- The specimens must be kept cool and sent to the Microbiology laboratory as soon as possible after all three specimens have been collected.
- Specimens are cultured for up to 42 days (6 weeks)
- Stained films for the presence of acid alcohol fast bacilli (AAFB) are **NOT** performed on urine specimens.

Urine for Pregnancy Tests

- **N.B** The laboratory performs a pregnancy test with the same sensitivity as that which is available in any chemist. It would be more cost effective to ask the patient to test their own sample, as it would give a quicker and more efficient result.
- An early morning urine specimen (EMU) should be collected into a universal container (white top), and sent to the Microbiology laboratory as soon as possible after collection.
- Specimens can be kept in a refrigerator overnight and then sent to the laboratory.
- The date of the last menstrual period (LMP) should be given on the request form together with any relevant clinical details.
- Results are usually available within 24 hours.

Urine for Schistosoma / Bilharzia ova

- A terminal specimen of urine (the last few drops) should be collected into a universal container (white top)
- The urine should be collected between 10:00 and 14:00 after gentle exercise.
- Specimens should be sent to the Microbiology laboratory as soon as possible after collection
- Results are available within 24 hours.
- Please state risk factors / country of exposure.

Faeces for microbiological and/ or virology testing

- **PLEASE NOTE:** Faeces samples are **NOT** routinely processed at weekends and Bank Holidays unless with the prior agreement of a Consultant Microbiologist.

- Specimens should be collected into universal containers with a blue lid and spoon. The specimen container MUST not be overfilled and the lid MUST be screwed on tightly. Leaking specimens will be discarded without processing.
- Full clinical details, including any foreign travel, MUST be given in order for the correct investigations to be performed.
- Specimens MUST be sent to the Microbiology laboratory as soon as possible after collection. The specimen MUST be fully labelled including the date of collection. Old specimens (>4 days) will be discarded without processing.
- Hard, formed specimens will not be routinely processed.
- Specimens should be kept in the refrigerator overnight.
- Patients with positive toxin results for *Clostridium Difficile* will not be retested for 1 month.

Results reporting:

- Faeces for culture: results will take a minimum of 48 hours, and may take up to 5 days.
- Faeces for Rotavirus: within 24 - 48hours.
- Faeces for Virology (referred test): 10-14 days
- *Clostridium Difficile* toxin results: Usually within 24 hours
- Ova, cysts and parasites: Usually within 24 hours.
- Positive results (e.g. *Salmonella*, *Campylobacter* spp, and parasites) will be telephoned as soon as possible by the Microbiology laboratory. Antibiotic sensitivity results are not routinely reported. Please telephone the Consultant Microbiologists if clinical advice is required.
- Positive isolates from faeces are Notifiable Diseases.

The Infection Control department will telephone positive *Clostridium Difficile* toxin results.

Helicobacter pylori

Please note, in line with the Local Dyspepsia Management Guidelines (July 2005), faecal specimens are now required to test for *Helicobacter pylori* (collected as above).

Blood specimens will no longer be processed for antibody detection.

Sputum for routine bacterial culture

- Sputum specimens for culture should be from a deep cough, collected into a sterile container (white top universal container), and ideally assisted by physiotherapy or postural drainage.
- The sample lid MUST be screwed on tightly.
- Specimens of saliva or those contaminated with food particles or mouthwash will **NOT** be processed.
- Specimens collected into waxed collection cups MUST NOT be sent for processing as these specimens do not have a tight seal and constitute a Health and Safety risk to all staff during transportation.
- The specimen containers must be labelled with the patient's fore and last name, DOB, the requesting location and date sample collected, and accompanied by a completed request form.
- The request form must give full clinical details and any antibiotic therapy to enable the laboratory staff to perform the correct tests and interpret the culture results obtained in, order to report a meaningful result.
- ANY LEAKING OR UNLABELLED SPECIMEN WILL NOT BE PROCESSED

Results reporting:

- Gram films are not routinely performed on sputum specimens.
- Culture results will usually be available within 48 hours.

Sputum for TB culture

- Please see above for sputum specimen collection.
- ANY LEAKING OR UNLABELLED SPECIMEN WILL NOT BE PROCESSED

Results reporting:

- Microscopy: results available within 24 – 48 hours.
 - Positive microscopy results will be telephoned to the referring clinician as soon as available.
 - TB culture – all cultures are continuously monitored on the MB BACT machine at 37°C for up to 6 weeks.
- Positive TB cultures will be notified to the referring clinician as soon as available.

MRSA swabs

- Please refer to the Infection Control Department (ext. 64279) or Consultant Microbiologists (ext 64287) for advice on swabs to be taken, and the timing of swabs in relation to the antibiotic eradication regime etc.
- The laboratory is open for receipt of these specimens Monday to Friday (08:30 – 17:30) and Saturday, Sunday and Bank Holidays (09:00 – 11:00)
- Groups of swabs from each patient should be banded together.
- The majority of results will be available within 48 -72hours.
- Positive MRSA results will be telephoned to the ward or referring clinician when available by the staff of the Infection Control department.

For further information and clinical advice regarding MRSA treatment and protocol please see section for key staff and their contact details.

Genital swabs

- Separate swabs MUST be collected for Chlamydia (available from the supplies department ext.64321)
- A separate form must be completed for Chlamydia investigations.
- High vaginal swabs are routinely screened for:
 - Trichomonas vaginalis
 - Candida
 - Beta haemolytic streptococci
 - Staphylococcus aureus

If screening for sexually transmitted disease is required, please send Urethral and / or cervical swabs. High vaginal swabs are NOT routinely screened for *Neisseria gonorrhoea*.

Swabs for viral culture

- The swab should be collected and immediately placed into viral transport (green top swab) medium (available from the supplies department ext.64321)
- The specimen and completed request form MUST be sent to the Serology department as soon as possible.
- This is a referred test and the average turn-around time is approximately 10 –14 days.

Fungal Culture

It is not necessary to routinely culture samples from all fungal nail infections, as empirical treatment can be tried.

Specimen requirements

- See collection instructions in appendices
- Skin scrapings, nail and hair samples should be collected into folded squares of black paper, into Dermapak holders or into clean, dry sterile laboratory containers available from the Pathology Supplies department. Ext.64321

- Skin and nails should be cleansed before specimen collection to prevent bacterial or saprophytic fungal contamination of the culture.
- Samples from the cutaneous layer (skin) should be collected from the edge of the lesion using a sterile blunt scalpel blade.
- Samples from the scalp should include hair roots, contents of plugged follicles and skin scales. Hair samples should be plucked with the use of sterile forceps.
- Nails samples should be collected from any discoloured, dystrophic or brittle parts of the nail to include the full thickness of the nail. Nail scrapings are preferable for culture rather than one nail clipping.
- Specimens should be sent to the Microbiology laboratory with a fully completed request form.

Results reporting:

- Specimens for Mycology are processed approximately 2- 3 x per week.
- Microscopy results are usually available within 1 week and a report is issued.
- Fungal cultures are read weekly for up to 3 weeks.
- Positive cultures are identified and reported as soon the cultures become positive.
- Negative fungal cultures are reported after 3 weeks incubation.

17.6 Seminal fluid specimens for post vasectomy investigation

- Patients **MUST** abstain from sexual intercourse for 3 days prior to the production of the specimen.
- The specimen must be obtained by masturbation and collected into a clean, dry sterile container (not into a sheath, unless they are special collection sheaths containing **NO** spermicide). The specimen **MUST** be produced at home and the time noted on the request form.
- NB There are no facilities for the specimen to be produced at the Princess Royal University Hospital.
- The specimen **MUST** be brought by the patient to the Pathology Reception area (2nd Floor South Wing Zone B) at The Princess Royal University Hospital.
- Semen specimens **MUST** not be sent on the routine specimen transport.
- Specimens **MUST** arrive in the Pathology department between 0900 and 1130 Monday to Friday **ONLY** (excluding Bank Holidays) to allow transportation to the Reference Laboratory. Specimens received after this time cannot be accepted for processing and will need to be repeated.
- The request form **MUST** be completed in the male partner's name. Forms completed in the female partner's name cannot be accepted as this contravenes Trust policies and the Data Protection Act.
- Samples **MUST** be given to a member of staff in the reception and **NOT** left in the collection box.

Results reporting:

- Specimens must be delivered to the laboratory before 16.00, Monday to Friday and will be reported the same day.

17.7 Covid-19 testing

Covid-19 tests are performed on Trust patient.

A combined nose and throat viral swab (green lid) is required for sample analysis. All other sample types (e.g. upper respiratory swabs) have to be referred to the DH site for testing as only the viral swabs have been validated on the PRUH testing platforms.

Tests are requestable via EPR and should be labelled with the EPR generated label.

Specimens destined for Covid-19 testing must not be transferred between the ward area and the laboratory in the pneumatic tube but must be delivered by hand, directly to the laboratory in a red Daniels box with the lid securely fastened.

Covid-19 swabs are processed between 08.00am and 24.00, Monday – Sunday on the Panther analysers (PCR).

If authorised by KCH Trust Silver command, swabs can be tests urgently for patients presenting in the Emergency Department or patients who need testing pre-operatively.

There are 2 rapid testing platforms for the approved priority cases, the Cepheid analyser for which the TAT is approximately 1 hour and the e-Plex with a TAT of 1 ¼ hours.

All results are available via EPR.

17.8 Sample requirements

Remember to:

Use the correct specimen bottles and ALL sample labels must include:

- Patient's full name (first name & last name)
- Date of Birth (DOB)
- NHS/hospital number
- Date sample was taken

The details on sample and request **must** match. The laboratory staff cannot alter incorrectly or inadequately labelled samples. The laboratory will notify staff of inadequately or incorrectly labelled samples/request forms that will be retained in the laboratory for inspection for the rest of the day.

- Ensure the specimen bottle and form are sent separated in a clear pathology sample (form in the pouch)
- Specimen bottles are tightly sealed to avoid leakage in transit
- **Inadequately and unlabelled samples** will not be processed and will be discarded
- Clinical details, indication for request and date/time of operation (see individual sections) should be indicated on request form or EPR request.

17.9 Tests available on emergency basis

There is a reduced repertoire of tests available on an emergency basis for the immediate diagnosis and management of a patient outside the core hours 17.30pm – 09.00 Monday - Friday, Saturday, Sunday and Bank Holidays.

Please note: that the Biomedical Scientist (BMS) covering the service outside core hours is not resident in the hospital and **MUST** be informed (via switchboard) of any urgent samples that require testing. If urgent samples are sent without informing the BMS, they will not be performed.

17.10 Referral Laboratories used by this laboratory

Refer to the PRUH Pathology list - [Direct Referral Laboratories \[PP-QF-044\]](#)

17.11 Requesting extra tests

Most specimens for microbiological investigations are best performed on fresh samples, however specimens are stored under temperature controlled conditions for 7 days after receipt in the laboratory.

Any additional investigations required should be discussed with the laboratory to ascertain suitability for further analysis.

Serology samples are aliquoted and frozen. These are maintained at -20°C for a period of 2 years. Further tests may be requested within this time-frame.

17.12 Notification of Infectious Diseases

The table below shows the infectious diseases that are notifiable in England and Wales.

Please note that ‘suspected food poisoning’ is also notifiable. It is not vital to send a faeces specimen for laboratory confirmation.

List of Notifiable diseases is available on the PHE website

[Notifiable diseases and causative organisms: how to report - GOV.UK \(www.gov.uk\)](http://www.gov.uk)

All laboratories in England performing a primary diagnostic role must notify PHE on the confirmation of a notifiable organism.

The laboratory at the PRUH reports to the PHE via a Lab-link - CoSurv

17.13 Urgent notification of serious Infectious Diseases

Serious infectious diseases with urgent implications for the non-hospital community, such as meningococcal infection or typhoid, require prompt notification.

Notification of an infectious disease will enable the appropriate action to be taken in the community. This action may include:

- Treating/monitoring close family or other contacts who may have been exposed to the infection (e.g. Tuberculosis, meningococcal meningitis)
- Investigation to identify the source as the infection may have been acquired from contaminated food, water or the environment (e.g. E.coli 0157, salmonella, cryptosporidiosis)
- For further information regarding infectious diseases,

17.14 Covid -19 testing and reporting

The laboratory at the PRUH provide Covid-19 testing for the secondary care patient cohort. Primary care tests are performed by the national Lighthouse Laboratories.

National reporting of the positive outcomes are notified to PHE via several routes; for those tests reported via Winpath (Panther & e-Plex), there is electronic data extraction and reporting directly to PHE. Other data is collated for the KCH Trust and reported by the DH site (Luminiere Dx and Cepheid method).

To ensure the capture of new emerging variants of concern, data is sent to the GSTT laboratory for submission to PHE on our behalf.

18. Appendix 1 – Pathology Blood Test Repertoire

Test Name	Alternative Name	Specimen Type 1	Sample Volume	Special Requirements	Disciplin
(α) Alpha-glucosidase	Maltase	Lithium heparin	2 bottles (5-8mls)		Biochemistry
(β) Beta-glucocerebrosidase	(β) Beta-glucosidase, Glucohydrolase	Lithium heparin	2 bottles (5-8mls)		Biochemistry
(β) Beta-glucosidase	Glucohydrolase, (β) Beta-glucocerebrosidase	Lithium heparin	2 bottles (5-8mls)		Biochemistry
1,25 Vitamin D		Potassium EDTA	1bottle (4.0ml)	Sample must be separated with 30 mins of collection and stored at - 20° C. Send sample FROZEN on DRY ICE (-70° C by courier)	Biochemistry
3-O Methyl Dopa		Lithium heparin	1bottle (4.0ml)	Store separated plasma frozen (-20° C). Send sample FROZEN on DRY ICE (-70° C) by courier.	
11-deoxycortisol	Cortoxelone	Gel SST	1bottle (3.5ml)		Biochemistry
17 Beta-oestradiol	E2, oestrogen, 17β-oestradiol, oestradiol	Gel SST	1bottle (3.5ml)		Biochemistry
17-alpha Hydroxyprogesterone	17α-Hydroxyprogesterone, 17α-OH Progesterone, 17-Hydroxyprogesterone, 17-OH Progesterone, 17-Hydroxyprogesterone	Gel SST	1bottle (3.5ml)		Biochemistry
17-Hydroxyprogesterone	17-alpha Hydroxyprogesterone, 17α-Hydroxyprogesterone, 17α-OH Progesterone, 17-Hydroxyprogesterone, 17-OH Progesterone	Gel SST	1bottle (3.5ml)		Biochemistry
17-OH Progesterone	17-Hydroxyprogesterone, 17-alpha Hydroxyprogesterone, 17α-Hydroxyprogesterone, 17α-OH Progesterone, 17-Hydroxyprogesterone	Gel SST	1bottle (3.5ml)		Biochemistry
17α-Hydroxyprogesterone	17α-OH Progesterone, 17-Hydroxyprogesterone, 17-OH Progesterone, 17-alpha Hydroxyprogesterone	Gel SST	1bottle (3.5ml)		Biochemistry
17α-OH Progesterone	Hydroxyprogesterone, 17-OH Progesterone, 17-Hydroxyprogesterone, 17-alpha Hydroxyprogesterone, 17α-Hydroxyprogesterone	Gel SST	1bottle (3.5ml)		Biochemistry
17β-oestradiol	E2, oestrogen, 17 Beta-oestradiol, Oestradiol	Gel SST	1bottle (3.5ml)		Biochemistry
25-hydroxyvitamin D	Vitamin D, Vitamin D2, Vitamin D3, Ergocalciferol, Cholecalciferol	Gel SST	1bottle (3.5ml)		Biochemistry
5α-dihydrotestosterone (5α-DHT)	Androstanolone, Dihydrotestosterone (DHT)	Gel SST	1bottle (3.5ml)		Biochemistry
6-TGN	6-Thioguanine, Thioguanine Nucleotides	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
6-Thioguanine	Thioguanine Nucleotides, 6-TGN	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
9-hydroxyrisperidone	Risperidone	Potassium EDTA	2mL		Biochemistry
A1AT Genotype	AAT Genotype, α1-Antitrypsin Genotype, Serum trypsin inhibitor Genotype, alpha-1 proteinase inhibitor Genotype, Alpha-1-Antitrypsin Genotype	Potassium EDTA	1mL		Biochemistry
AAT Genotype	α1-Antitrypsin Genotype, Serum trypsin inhibitor Genotype, alpha-1proteinase inhibitor Genotype, Alpha-1-Antitrypsin Genotype, A1AT Genotype	Potassium EDTA	1mL		Biochemistry
ACCP	CCP; Anti cyclic citrullinated peptides	Gel SST	1bottle (3.5ml)		Immunology
ACE	Serum ACE; Angiotensin Converting Enzyme	Gel SST	1bottle (3.5ml)		Biochemistry
Acetaminophen	Paracetamol, APAP	Gel SST	1bottle (3.5ml)		Biochemistry

Acetyl Choline Receptor Antibody (AChR Ab)	Acetylcholine Receptor Binding Antibody, Acetylcholine Receptor Blocking Antibody, Acetylcholine Receptor Modulating Antibody	Gel SST	1 bottle (3.5ml)		Biochemistry
Acetylcholine Receptor Binding Antibody	Acetylcholine Receptor Blocking Antibody, Acetylcholine Receptor Modulating Antibody, Acetyl Choline Receptor Antibody (AChR Ab)	Gel SST	1 bottle (3.5ml)		Biochemistry
Acetylcholine Receptor Blocking Antibody	Acetylcholine Receptor Modulating Antibody, Acetyl Choline Receptor Antibody (AChR Ab), Acetylcholine Receptor Binding Antibody	Gel SST	1 bottle (3.5ml)		Biochemistry
Acetylcholine Receptor Modulating Antibody	Acetyl Choline Receptor Antibody (AChR Ab), Acetylcholine Receptor Binding Antibody, Acetylcholine Receptor Blocking Antibody	Gel SST	1 bottle (3.5ml)		Biochemistry
Acetylcholinesterase (ACHE)	Cholinesterase	Gel SST	400 µL		Biochemistry
Acid Phosphatase: PSA	Prostate Specific Antigen	Gel SST	1 bottle (3.5ml)		Biochemistry
ACTH	Adrenocorticotrophic Hormone, Corticotrophin	Potassium EDTA	1 bottle (4.0 mL)	Sample should be kept on ice and transported to the lab	Biochemistry
Adenovirus DNA PCR		Potassium EDTA	1 bottle (4.0 mL)		Microbiology
ADH	Antidiuretic Hormone, Vasopressin, Arginine Vasopressin, AVP	Test no longer	1 bottle (4.0ml)	Specimen to SPR within 15 minutes of collection	Biochemistry
Adjusted Calcium	Corrected Calcium	Gel SST	1 bottle (3.5ml)		Biochemistry
Adrenal Antibodies	Adrenal Cortex Antibodies, Anti-adrenal antibodies, Anti-adrenal cortex antibodies	Gel SST	1 bottle (3.5ml)		Biochemistry
Adrenaline	TEST NO LONGER AVAILABLE	No longer available			
Adrenal Cortex Antibodies	Anti-adrenal antibodies, Anti-adrenal cortex antibodies, Adrenal Antibodies	Gel SST	1 bottle (3.5ml)		Biochemistry
Adrenal Cortex Antibodies		Gel SST	1 bottle (3.5ml)		Immunology
Adrenocorticotrophic Hormone	ACTH, Corticotrophin	Potassium EDTA	1 bottle (4.0 mL)	Sample should be kept on ice and transported to the lab	Biochemistry
AFP	Alpha Feto Protein	Gel SST	1 bottle (3.5ml)		Biochemistry
AIP	Autoimmune (60)	Gel SST	1 bottle (3.5ml)		Biochemistry
Alanine Aminotransferase	Alanine Transaminase, Serum glutamate pyruvate transaminase (SGPT)	Gel SST	1 bottle (3.5ml)		Biochemistry
Alanine Transaminase	Alanine aminotransferase, Serum glutamate pyruvate transaminase (SGPT)	Gel SST	1 bottle (3.5ml)		Biochemistry
Albumin		Gel SST	1 bottle (3.5ml)		Biochemistry
Alcohol	C2H5OH, Ethanol, EtOH	Sodium Fluoride	1 bottle (3.5ml)		Biochemistry
Aldosterone	Electrocortin	Potassium EDTA	1 bottle (4.0 mL)	Must be bled at the PRUH and samples taken to the laboratory	Biochemistry
Alkaline Phosphatase		Gel SST	1 bottle (3.5ml)		Biochemistry
Alkaline Phosphatase Isoenzymes		Gel SST	500 µL		Biochemistry
Alpha-amino adipic semialdehyde		Random Urine		Store frozen (-20°C). Send sample FROZEN on DRY ICE (-70°C) by courier if transfer takes > 24 hours	
Alpha Fetoprotein	AFP	Gel SST	1 bottle (3.5ml)		Biochemistry
Alpha Galactosidase	α-galactosidase, Fabry's Screen	Lithium heparin	5 mL		Biochemistry
alpha-1 proteinase inhibitor Genotype	Alpha-1-Antitrypsin Genotype, A1AT Genotype, AAT Phenotype, α1-Antitrypsin	Potassium EDTA	1mL		Biochemistry

Alpha-1-acid Glycoprotein (α1AGP)	Orosomucoid (ORM)	Gel SST	1bottle (3.5ml)		Biochemistry
Alpha-1-antitrypsin Faecal		Faeces		Freeze immediately (-20°C) Send sample FROZEN on DRY ICE (-70°C) by courier. Vetting required.	Biochemistry
Alpha-1-antitrypsin		Gel SST	1bottle (3.5ml)		Biochemistry
Alpha-1-Antitrypsin Genotype	A1AT Genotype, AAT Genotype, α1-Antitrypsin Genotype, Serum trypsin inhibitor Genotype, alpha-1 proteinase inhibitor Genotype	Potassium EDTA	2-5mls		Biochemistry
Alpha-1-Antitrypsin Phenotype		Potassium EDTA	2-5mls		Biochemistry
Alpha-tocopherol	Vitamin E	Lithium Heparin	1bottle (4.0ml)	Protect sample from light	Biochemistry
ALT	Alanine Aminotransferase, SGPT; Alanine Transferase, Serum Glutamate Pyruvate	Gel SST	1bottle (3.5ml)		Biochemistry
Aluminium		Gel SST	1bottle (3.5ml)		Biochemistry
AMA (CTD Screen)	Anti Mitochondrial antibodies	Gel SST	5mls		Biochemistry
AMH	Anti Mullerian Hormone	Gel SST	1bottle (3.5ml)		Biochemistry
Amidohydrolase Biotinidase	BTD, Biotinidase	Lithium heparin	1bottle (3.5ml)		Biochemistry
Amikacin		Gel SST	1bottle (3.5ml)		Biochemistry
Amniophylline	Theophylline	Gel SST	1bottle (3.5ml)		Biochemistry
Amino Acids		Lithium heparin	2 mL		Biochemistry
Amiodarone	Desethylamiodarone	Gel SST	1bottle (3.5ml)	Pre dose sample	Biochemistry
Amitriptyline	Nortriptyline	Gel SST	2 mL		Biochemistry
Ammonia	NH4	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Amoebic IFAT		Gel SST	1bottle (3.5ml)		Microbiology
Amylase		Gel SST	1bottle (3.5ml)		Biochemistry
Amyloid A	Serum Amyloid A (SAA)	Gel SST	1bottle (3.5ml)		Biochemistry
ANA	ANF; Auto Antibody Screen.	Gel SST	1bottle (3.5ml)		Immunology
Anafrinal	Desmethylclomipramine, Clomipramine	Gel SST	1bottle (3.5ml)		Biochemistry
ANCA	MPC/PR3; Renal Screen; Vasculitis Screen.	Gel SST	1bottle (3.5ml)		Immunology
ANCS	C ANCA; ANCA	Gel SST	1bottle (3.5ml)		Biochemistry
ANCA Slide		Gel SST	1bottle (3.5ml)		Immunology
Androgen Index	Free Androgen; FAI; SHBG	Gel SST	1bottle (3.5ml)		Biochemistry
Androstanolone	Dihydrotestosterone (DHT), 5α-dihydrotestosterone (5α-DHT)	Gel SST	1bottle (3.5ml)		Biochemistry
Androstenedione		Gel SST	1bottle (3.5ml)		Biochemistry
ANF	ANA; ANTI NUCLEAR FACTOR; ANTIBODIES	Gel SST	1bottle (3.5ml)		Immunology
Angiotensin Converting Enzyme	ACE	Gel SST	1bottle (3.5ml)		Biochemistry
Angiotensinogenase	Renin	Potassium EDTA	500µL	Must be bled at the PRUH and samples taken to the laboratory	Biochemistry
Anti Cardiolipin Ab	Anti Phospholipid AB.	Gel SST	1bottle (3.5ml)		Immunology
Anti Centromere		Gel SST	1bottle (3.5ml)		Biochemistry
Anti cyclic citrullinated peptides	ACCP; anti CCP; Ab; Anti cyclic citrullinated peptides	Gel SST	1bottle (3.5ml)		Immunology
Anti Gliadin AB	TTG (alternative replacement test)	Gel SST	1bottle (3.5ml)		Immunology
Anti Mullerian Hormone (AMH)	Mullerian-Inhibiting Hormone (MIH), Mullerian Inhibiting Factor (MIF), Mullerian	Gel SST	500 µL		Biochemistry

Anti Neutrophil Cytoplasmic antibody		Gel SST	1bottle (3.5ml)		Biochemistry
Anti Phospholipid AB (Do not request - see special requirements)	Cardiolipin Ab	Gel SST	1bottle (3.5ml)		Immunology
Anti xa	Clexane	Sodium Citrate	2.7ml		Haematology
Anti-adrenal antibodies	Anti-adrenal cortex antibodies, Adrenal Antibodies, Adrenal Cortex Antibodies	Gel SST	1bottle (3.5ml)		Biochemistry
Anti-adrenal cortex antibodies	Adrenal Antibodies, Adrenal Cortex Antibodies, Anti-adrenal antibodies	Gel SST	1bottle (3.5ml)		Biochemistry
Anti-Aquaporin-4 Antibodies	Aquaporin Antibodies, AQP-4 Antibodies, Neuromyelitis Optica	Gel SST	1bottle (3.5ml)		Biochemistry
Antibody investigation		Pink EDTA	6-28mL		Blood Transfusion
Anti-CCP	Anti cyclic citrullinated peptides	Gel SST	1bottle (3.5ml)		Immunology
Antidiuretic Hormone	ADH, Vasopressin, Arginine vasopressin, AVP	Test no longer	5 mL		Biochemistry
Anti-Intrinsic factor	Intrinsic Factor Antibodies, IF Antibody (Type 1 or 2), Intrinsic Factor Binding	Gel SST	1bottle (3.5ml)		Biochemistry
Antimitochondrial Antibodies (CTD screen)	AMA	Gel SST	1bottle (3.5ml)		Biochemistry
Anti-neuronal nuclear antibodies 1(Hu)	Anti-neuronal nuclear antibodies 2 (Ri), Paraneoplastic Antibodies, Neuronal	Gel SST	1bottle (3.5ml)		Biochemistry
Anti-neuronal nuclear antibodies 2 (Ri)	Anti-neuronal nuclear antibodies 1(Hu), Paraneoplastic Antibodies, Neuronal	Gel SST	1bottle (3.5ml)		Biochemistry
Anti Reticulin	ARA (CTD Screen)	Gel SST	1bottle (3.5ml)		Biochemistry
Anti-staphylococcal antibodies		Gel SST	1bottle (3.5ml)		Microbiology
APAP	Acetaminophen, Paracetamol	Gel SST	1bottle (3.5ml)		Biochemistry
Apixaban levels		Sodium Citrate	2.7ml		Haematology
Apolipoprotein A1 (Apo A1)		Gel SST	1bottle (3.5ml)		Biochemistry
Apolipoprotein B (APOB)		Gel SST	1bottle (3.5ml)		Biochemistry
APTT		Sodium Citrate	2.7ml		Haematology
AQP-4 Antibodies	Anti-Aquaporin-4 Antibodies, Aquaporin Antibodies, Neuromyelitis Optica	Gel SST	1bottle (3.5ml)		Biochemistry
Aquaporin 4		Gel SST	1bottle (3.5ml)		Immunology
Aquaporin Antibodies	AQP-4 Ab, Anti-Aquaporin-4 Antibodies, Neuromyelitis Optica Antibodies (NMO)	Gel SST	1bottle (3.5ml)		Biochemistry
Arginine Vasopressin	ADH, Vasopressin, Antidiuretic Hormone, AVP	Test no longer	5 mL	Specimen to SPR within 15 minutes of collection	Biochemistry
Array CGH (aCGH)	Genetics Test, Chromosome Analysis	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Ascorbic Acid	Vitamin C, Ascorbate	Lithium Heparin	2ml	Call the laboratory ahead of taking a sample and deliver ASAP. Protect from light.	Biochemistry
ASD titre		Gel SST	1bottle (3.5ml)		Microbiology
Aspartate aminotransferase	Serum glutamic oxaloacetic transaminase (SGOT), Aspartate transaminase	Gel SST	1bottle (3.5ml)		Biochemistry
Aspartate Transaminase	AST ; Aspartate aminotransferase, serum glutamic oxaloacetic transaminase	Gel SST	1bottle (3.5ml)		Biochemistry
Aspergillus - Galactamanan	RASTP	Gel SST	1bottle (3.5ml)		Microbiology
AST	Aspartate Transaminase	Gel SST	1bottle (3.5ml)		Biochemistry
Auto Antibody Screen	Liver antibody screen	Gel SST	1bottle (3.5ml)		Immunology
Autoimmune (60)	AIP	Gel SST	1bottle (3.5ml)		Biochemistry
AVP	Arginine Vasopressin, ADH, Vasopressin, Antidiuretic Hormone	Test no longer	1bottle (4.0ml)	Specimen to SPR within 15 minutes of collection	Biochemistry
B2 Glycoprotein		Gel SST	1bottle (3.5ml)		Immunology
B2 Microglobulin	B2M	Gel SST	1bottle (3.5ml)		Immunology

Beta-Carotene		Gel SST	1 bottle (3.5ml)	Separate sample immediately after collection and store frozen (-20° C). Protect sample from light. Send sample FROZEN on DRY ICE (-70° C) by courier.	Biochemistry
Beta-HCG	Human Chronic Gonadotrophin, β -HCG	Gel SST	1 bottle (3.5ml)		Biochemistry
Beta-HCGT	HCG Tumour Marker	Gel SST	1 bottle (Biochemistry
Bicarbonate	CO ₂ ; HCO ₃	Gel SST	1 bottle (3.5ml)	Receive within 4 Hours	Biochemistry
Bile Acid	Bile Salts	Gel SST	1 bottle (3.5ml)		Biochemistry
Bile Acid Urine		Random Urine		Store frozen (-20° C). Send sample FROZEN on DRY ICE (-70° C) by courier if transfer likely to take >24 hours.	Biochemistry
Bile Salts	Bile Acid	Gel SST	1 bottle (3.5ml)		Biochemistry
Bilharzia/Schistosoma antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Bilirubin (Direct)	Split bilirubin, conjugated/ unconjugated bilirubin.	Gel SST	1 bottle (3.5ml)		Biochemistry
Bilirubin (Total)		Gel SST	1 bottle (3.5ml)		Biochemistry
Biotinidase	Amidohydrolase Biotinidase, BTD	Lithium heparin	1 bottle (3.5ml)		Biochemistry
Biotinidase activity		Lithium heparin	1 bottle (4.0ml)	Store separated plasma frozen (-20° C). Send sample FROZEN on DRY ICE (-70° C) by courier.	Biochemistry
BK virus DNA - Blood		Potassium EDTA	1 bottle (4.0 mL)		Microbiology
Blood films		Potassium EDTA	1 bottle (4.0 mL)		Haematology
Blood Group & Red Cells Antibodies		Pink EDTA	6ml		Blood Transfusion
Blood Pyruvate				Complex specimen requirements apply. Sample can only be taken at Denmark Hill	
BNP	Brain Natriuretic Peptide	Gel SST	1 bottle (3.5ml)		Biochemistry
Bordetella Pertussis	Whooping Cough	Gel SST	1 bottle (3.5ml)		Microbiology
Borrelia (Lyme) antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Brain Natriuretic Peptide	NT-proBNP, N-terminal pro B-type natriuretic peptide, B-type natriuretic	Gel SST	1 bottle (3.5ml)		Biochemistry
Brucella screen		Gel SST	1 bottle (3.5ml)		Microbiology
BTD	Amidohydrolase Biotinidase, Biotinidase	Gel SST	1 bottle (3.5ml)		Biochemistry
B-type natriuretic peptide	Brain Natriuretic Peptide, N-terminal pro B-type natriuretic peptide, NT-proBNP	Gel SST	1 bottle (3.5ml)		Biochemistry
Butyrylcholinesterase (BCHE)	Pseudocholinesterase	Gel SST	1 bottle (3.5ml)		Biochemistry
C ANCA	ANCS	Gel SST	1 bottle (3.5ml)		Biochemistry
C Reactive Protein		Gel SST	1 bottle (3.5ml)		Biochemistry
C1Esterase Inhibitor		Gel SST	1 bottle (3.5ml)		Immunology
C2H5OH	Ethanol, Alcohol, ETOH	Sodium Fluoride	1 bottle (2.0ml)		Biochemistry
Cadmium		Potassium EDTA	1 bottle (4.0 mL)	Send additional empty sample container from the same batch to test for contamination.	Biochemistry
Caeruloplasmin		Gel SST	5 mL		Biochemistry
Calcitonin	Thyrocalcitonin	Gel SST	1 bottle (3.5ml)		Biochemistry
Calcium		Gel SST	1 bottle (3.5ml)		Biochemistry

Calcium channel abs		Gel SST	1bottle (3.5ml)		Immunology
Cancer Antigen 125	Carbohydrate Antigen 125, Carcinoma Antigen 125	Gel SST	1bottle (3.5ml)		Biochemistry
Cancer Antigen 153	Carbohydrate Antigen 153, Carcinoma Antigen 153	Gel SST	1bottle (3.5ml)		Biochemistry
Cancer Antigen 199	Carbohydrate Antigen 199, Carcinoma Antigen 199	Gel SST	1bottle (3.5ml)		Biochemistry
Carbamazepine	Tegretol	Gel SST	1bottle (3.5ml)	Trough Level	Biochemistry
Carbohydrate Antigen 125	Cancer Antigen 125, Carcinoma Antigen 125, CA125	Gel SST	1bottle (3.5ml)		Biochemistry
Carbohydrate Antigen 153	Cancer Antigen 153, Carcinoma Antigen 153 CA15 3	Gel SST	1bottle (3.5ml)		Biochemistry
Carbohydrate Antigen 199	Cancer Antigen 199, Carcinoma Antigen 199, CA19 9	Gel SST	1bottle (3.5ml)		Biochemistry
Carbohydrate Deficient Transferrin	CDT	Gel SST	500 µL		Biochemistry
Carboxyhaemoglobin		Blood Gas Syringe			Biochemistry
Carcinoembryonic Antigen	CEA	Gel SST	1bottle (3.5ml)		Biochemistry
Carcinoma Antigen 125	Carcinoma Antigen 125, Carbohydrate Antigen 125	Gel SST	1bottle (3.5ml)		Biochemistry
Carcinoma Antigen 153	Carcinoma Antigen 153, Carbohydrate Antigen 153	Gel SST	1bottle (3.5ml)		Biochemistry
Carcinoma Antigen 199	Carcinoma Antigen 199, Carbohydrate Antigen 199	Gel SST	1bottle (3.5ml)		Biochemistry
Cardiac Enzymes	Creatinine Kinase, Creatinine Phosphokinase; CK	Gel SST	1bottle (3.5ml)		Biochemistry
Cardiolipins		Gel SST	1bottle (3.5ml)		Biochemistry
Carnitine	Free Carnitine, Acylcarnitine	Guthrie Card			Biochemistry
Catecholamines (plasma)	Dopamine, Adrenaline (epinephrine), Noradrenaline (norepinephrine)	Test no longer			Biochemistry
Catechol-O-Methyl-Transferase	COMT	Gel SST	1bottle (3.5ml)		Biochemistry
CCP	ACCP; anti CCP; Ab; Anti cyclic citrullinated peptides	Gel SST	1bottle (3.5ml)		Immunology
CD4/ CD8 Lymphocyte Subsets	T Cell Subsets, Lymphocyte Subsets	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
CD4:CD8		Potassium EDTA	1bottle (4.0 mL)		Immunology
CDT	Carbohydrate Deficient Transferrin	Gel SST	500 µL		Biochemistry
CEA	Carcinoembryonic Antigen	Gel SST	1bottle (3.5ml)		Biochemistry
CFTR Gene Analysis	Cystic Fibrosis Gene Analysis	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Chickenpox (VZV) IgG		Gel SST	1bottle (3.5ml)		Microbiology
Chikungunya virus antibodies		Gel SST	1bottle (3.5ml)	Contact laboratory ext 64250 for URGENT test e.g. contact during pregnancy	Microbiology
Chloride	Electrolytes	Gel SST	1bottle (3.5ml)		Biochemistry
Cholecalciferol	Vitamin D, Vitamin D2, Vitamin D3, Ergocalciferol, 25-hydroxyvitamin D	Gel SST	1bottle (3.5ml)		Biochemistry
Cholesterol		Gel SST	1bottle (3.5ml)		Biochemistry
Cholestanol		Lithium heparin	1bottle (4ml)	Store frozen (-20°C). Send sample FROZEN on DRY ICE (-70°C) by courier if transfer likely to take >24 hours	Biochemistry
Cholinesterase	Acetylcholinesterase	Gel SST	400 µL		Biochemistry
Chromium		Potassium EDTA	1bottle (4.0 mL)	Use plastic cannula or second draw if metal needle essential.	Biochemistry
Chromogranin A (CgA) (CHGA)	Parathyroid Secretory Protein I	Potassium EDTA	1bottle (4.0 mL)	Sample should be transported to the lab immediately	Biochemistry
Chromogranin B (CgB) (CHGB)	Secretogranin I	Potassium EDTA	1bottle (4.0 mL)	Sample should be transported to the lab immediately	Biochemistry
Chromosome Analysis	Array CGH (aCGH), Genetics Test	Potassium EDTA	1bottle (4.0 mL)		Biochemistry

CK	Creatinine Kinase	Gel SST	1bottle (3.5ml)		Biochemistry
Clauss Fibrinogen		Sodium Citrate	2.7ml		Haematology
Clobazam		Gel SST	1bottle (3.5ml)		Biochemistry
Clomipramine	Desmethylclomipramine, Anafranil	Gel SST	1bottle (3.5ml)		Biochemistry
Clonazepam	Rivotril	Gel SST	1bottle (3.5ml)		Biochemistry
Clotting Screen		Sodium Citrate	2.7ml		Haematology
Clozapine	Clozaril, Norclozapine	Potassium EDTA	2 mL		Biochemistry
Clozaril	Clozapine, Norclozapine	Potassium EDTA	2 mL		Biochemistry
CMV IgG antibodies		Gel SST	1bottle (3.5ml)		Microbiology
CMV IgM		Gel SST	1bottle (3.5ml)		Microbiology
CMV PCR - EDTA blood		Potassium EDTA	1bottle (4.0 mL)		Microbiology
CO2	Bicarbonate	Gel SST	1bottle (3.5ml)		Biochemistry
Cobalamin	Vitamin B12	Gel SST	1bottle (3.5ml)		Biochemistry
Cobalt (Co)	See Below	Gel SST	1bottle (3.5ml)		Biochemistry
Cobalt - Serum		Gel SST	1bottle (3.5ml)		Biochemistry
Cobalt - Blood		Potassium EDTA	1bottle (4.0ml)		Biochemistry
Coeliac Screen	Gladin antibodies; TTGs	Gel SST	1bottle (3.5ml)		Immunology
Coenzyme Q10 - Ubiquinone		Potassium EDTA	1bottle (4.0ml)	DO NOT FREEZE. Store at room temperature, send urgently by courier at ambient temperature to arrive within 24hr. Ensure arrives before 12 p.m. on Fridays.	Biochemistry
Cold Agglutinins		1 x 6ml Pink 1 x 3.5 Serum	1x 6ml 1x 3.5ml	IN-HOUSE Keep warm, transport to BT. (Phleb to contact the laboratory before sending)	Blood Transfusion
Colistin levels		Gel SST	3-5mls		Microbiology
Complement C1Q		Gel SST	1bottle (3.5ml)		Biochemistry
Complement C1Q Antibody		Gel SST	1bottle (3.5ml)		Biochemistry
Complement C3		Gel SST	1bottle (3.5ml)		Biochemistry
Complement C4		Gel SST	1bottle (3.5ml)		Biochemistry
Complex antibody resolution		1-4 x Pink EDTA	6ml		Blood Transfusion
COMT	Catechol-O-Methyl-Transferase	Gel SST	1bottle (3.5ml)		Biochemistry
Conjugated/ unconjugated bilirubin	Direct bilirubin, split bilirubin	Gel SST	1bottle (3.5ml)		Biochemistry
Connective Tissue Disease Screen	CTD.	Gel SST	1bottle (3.5ml)		Immunology
Coombs' Test, Direct Coomb' Test	DCT/DAT	Pink EDTA	3-6mL		Blood Transfusion
Copeptin		Gel SST	1bottle (3.5ml)		
Copper (Cu) (Serum)		Gel SST	1mL		Biochemistry
Corrected Calcium	Adjusted Calcium	Gel SST	1bottle (3.5ml)		Biochemistry
Corticotrophin	ACTH, Adrenocorticotrophin Hormone	Potassium EDTA	1bottle (4.0 mL)	Sample should be kept on ice and transported to the lab immediately	Biochemistry

Cortisol		Gel SST	1 bottle (3.5ml)		Biochemistry
Cortisolone	11-deoxycortisol	Gel SST	150 µL		Biochemistry
Coxiella		Gel SST	1 bottle (3.5ml)		Microbiology
Coxiella (Q fever) antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Coxsackie antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Coxsackie B1gM - (enterovirus)		Gel SST	1 bottle (3.5ml)		Microbiology
C-Peptide	Proinsulin c-peptide, Insulin c-peptide.	Gel SST	350 µL	Transport to laboratory immediately and Separate within 30 minutes of venepuncture.	Biochemistry
Creatinine		Gel SST	1 bottle (3.5ml)		Biochemistry
Creatinine Kinase	Creatinine Phosphokinase (CPK), Cardiac Enzymes; CK	Gel SST	1 bottle (3.5ml)		Biochemistry
Creatinine Phosphokinase (CPK)	Creatinine Kinase, Cardiac enzymes	Gel SST	1 bottle (3.5ml)		Biochemistry
Creatinine Transport - Plasma & Urine		Urine & plasma		Store frozen (-20° C). Send sample FROZEN on DRY ICE (-	
Cryofibrinogens		Potassium EDTA	1 bottle (4.0ml)	Contact Haematology laboratory for instruction.	Haematology
Crossmatch		1-4 Pink EDTA	6ml to 24ml		Blood Transfusion
Cryoglobulin	Cryoprotein	Gel SST	1 bottle (3.5ml)	Sample to be kept at 37° C	Biochemistry
Cryoglobulins		Gel SST	1 bottle (3.5ml)	Must come straight to laboratory in flask 37° C	Immunology
Cryptococcal antigen		Gel SST	1 bottle (3.5ml)		Microbiology
CSF Glucose		Sodium Fluoride	1 bottle (3.5ml)		Biochemistry
CSF Ferritin		CSF	Sample	Store frozen (-80° C). Send sample FROZEN on DRY ICE (-70° C) by courier.	Biochemistry
CSF Tau Protein		CSF	Sample	Store frozen (-80° C). Send sample FROZEN on DRY ICE (-70° C) by courier.	Biochemistry
CSF Amyloid		CSF	Sample	Store frozen (-80° C). Send sample FROZEN on DRY ICE (-70° C) by courier.	Biochemistry
CSF ACE		CSF	Sample	Store frozen (-80° C). Send sample FROZEN on DRY ICE (-70° C) by courier.	Biochemistry
CSF HVA		CSF	Sample	Samples must be collected onto dry ice at bedside. Store frozen (-80° C). Send sample FROZEN on DRY ICE (-70° C) by courier. Samples must be sent before 12 p.m. if not possible keep in freezer until next working day.	Biochemistry
CSF 5H1AA		CSF	Sample	Samples must be collected onto dry ice at bedside. Store frozen (-80° C). Send sample FROZEN on DRY ICE (-70° C) by courier. Samples must be sent before 12 p.m. if not possible keep in freezer until next working day.	Biochemistry

CSF 5MTHF		CSF	Sample	Samples must be collected onto dry ice at bedside. Store frozen (-80° C). Send sample FROZEN on DRY ICE (-70° C) by courier. Samples must be sent before 12 p.m. if not possible keep in freezer until next working day.	Biochemistry
CTD	Connective Tissue Disease Screen.	Gel SST	1 bottle (3.5ml)		Immunology
Cyclosporin	CsA	Potassium EDTA	1 bottle (4.0 mL)		Biochemistry
Cystic Fibrosis Gene Analysis	CFTR Gene Analysis	Potassium EDTA	1 bottle (4.0 mL)		Biochemistry
Cytogenetics		Potassium EDTA	1 bottle (4.0 mL)		Haematology
DABS	Diabetic Anti-body Screen	Gel SST	1 bottle (3.5ml)		Immunology
DAT	Direct Coombs Test; DCT	1 Pink EDTA samples	Min. 1ml - 6ml		Blood Transfusion
DCT	Direct Coombs Test; DAT	1 Pink EDTA samples	Min. 1ml - 6ml		Blood Transfusion
D-Dimer	FDP	Sodium Citrate	2.7ml		Haematology
Dehydroepiandrosterone Sulphate	DHEA-S, DHAS	Gel SST	1 mL		Biochemistry
Dengue virus antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Desethylamiodarone	Amiodarone	Gel SST	1 bottle (3.5ml)	Pre dose sample	Biochemistry
Desmethyl Dothiepin	Dothiepin, Dosulepin, Prothiaden	Gel SST	1 bottle (3.5ml)		Biochemistry
Desmethyldomipramine	Clomipramine, Anafrinal	Gel SST	1 bottle (3.5ml)		Biochemistry
Desmethyldoxepin	Doxepin	Gel SST	1 bottle (3.5ml)		Biochemistry
DHAS	Dehydroepiandrosterone Sulphate, DHEA-S	Gel SST	1 mL		Biochemistry
DHEA-S	Dehydroepiandrosterone Sulphate, DHAS	Gel SST	1 mL		Biochemistry
Diastat	Valium, Diastat	Gel SST	1 bottle (3.5ml)		Biochemistry
Diazepam	Diastat, Valium	Gel SST	1 bottle (3.5ml)		Biochemistry
DIC Screen		Sodium Citrate	2.7ml		Haematology
Digoxin		Gel SST	1 bottle (3.5ml)	Trough Level	Biochemistry
Dihydropyrimidine Dehydrogenase	DPD	Potassium EDTA	2 bottles (5-8mls)		Biochemistry
Dihydrotestosterone (DHT)	5 α -dihydrotestosterone (5 α -DHT), Androstanolone	Gel SST	1 bottle (3.5ml)		Biochemistry
DNA	ds DNA	Gel SST	1 bottle (3.5ml)		Immunology
Dopamine (plasma)	Adrenaline (epinephrine), Noradrenaline (norepinephrine), Catecholamines	Test no longer			Biochemistry
Dosulepin	Prothiaden, Dosulepin, Desmethyl Dothiepin	Gel SST	1 bottle (3.5ml)		Biochemistry
Dothiepin	Dosulepin, Prothiaden, Desmethyl Dothiepin	Gel SST	1 bottle (3.5ml)		Biochemistry
Downs NTD Screen		Potassium EDTA	1 bottle (4.0 mL)		Biochemistry
Doxepin	Desmethyldoxepin	Gel SST	1 bottle (3.5ml)		Biochemistry
DPD	Dihydropyrimidine Dehydrogenase	Potassium EDTA	2 bottles (5-8mls)		Biochemistry
DS DNA	DNA (CTD Screen)	Gel SST	1 bottle (3.5ml)		Immunology
E2	oestrogen, 17 β -oestradiol, 17 Beta-oestradiol, Oestradiol	Gel SST	1 bottle (3.5ml)		Biochemistry
Diphtheria antibodies level		Gel SST	1 bottle (3.5ml)		Microbiology

EBV /VCA antibodies	EBV IgG	Gel SST	1bottle (3.5ml)		Microbiology
EBV /VCA		Gel SST	1bottle (3.5ml)		Microbiology
EBV PCR	EBV Igm	Potassium EDTA	1bottle (4.0 mL)		Microbiology
eGFR	Glomerular Filtration Rate, GFR	Gel SST	1bottle (3.5ml)		Biochemistry
Electrocortin	Aldosterone	Potassium EDTA	500 µL	Must be bled at the PRUH and samples taken to the laboratory	Biochemistry
Electrolytes	Sodium, Potassium, Chloride	Gel SST	1bottle (3.5ml)		Biochemistry
Elisa Immunofluorescent	Part of ANCA Profile	Gel SST	1bottle (3.5ml)		Biochemistry
EMA Binding		Potassium EDTA	1bottle (4.0 mL)	Contact Kings Red Cell Centre (RCC) 020 3299 2455. Requires FBC and Reticulocyte count prior to referral.	Haematology
ENA	Extractable Nuclear antigens.	Gel SST	1bottle (3.5ml)		Immunology
Endomysial Ab	TTG; Coeliac Screen, Anti Gliadin	Gel SST	1bottle (3.5ml)		Immunology
ENO2	Gamma-enolase, Neurone Specific Enolase (NSE)	Gel SST	250 µL		Biochemistry
EBV DNA		Gel SST			Microbiology
Enterovirus IgM ELISA		Gel SST	1bottle (3.5ml)		Microbiology
Enterovirus RNA PCR - Blood		Potassium EDTA	1bottle (4.0 mL)		Microbiology
EPISEP	Protein electrophoresis	Gel SST	1bottle (3.5ml)		Immunology
Epanutin	Phenytoin	Gel SST	1bottle (3.5ml)		Biochemistry
Epilim	Valproate, Sodium Valproate, Valproic Acid	Gel SST	1bottle (3.5ml)		Biochemistry
EPO	Erythropoietin	Gel SST	1bottle (3.5ml)		Biochemistry
Ergocalciferol	Vitamin D, Vitamin D3, Cholecalciferol, 25-hydroxyvitamin D, Vitamin D2	Gel SST	1bottle (3.5ml)		Biochemistry
Erythropoietin	EPO	Gel SST	1bottle (3.5ml)		Biochemistry
ESR		Potassium EDTA	1bottle (4.0 mL)		Haematology
Ethane 1,2 Diol	Ethylene Glycol, Ethanediol	Sodium Fluoride	1bottle (2.0ml)		Biochemistry
Ethanediol	Ethylene Glycol, Ethane 1,2 Diol	Sodium Fluoride	1bottle (2.0ml)		Biochemistry
Ethanol	C2H5OH, Alcohol, EToH	Sodium Fluoride	1bottle (2.0ml)		Biochemistry
Ethosuximide		Gel SST	1bottle (3.5ml)		Biochemistry
Ethylene Glycol	Ethanediol, Ethane 1,2 Diol	Sodium Fluoride	1bottle (2.0ml)	Serum from gel tubes NOT acceptable. Send urgently. Inform referral lab before sending. Send urgently by courier at ambient temperature.	Biochemistry
EToH	C2H5OH, Ethanol, Alcohol	Sodium Fluoride	1bottle (3.5ml)		Biochemistry
Extractable Nuclear antigens	ENA	Gel SST	1bottle (3.5ml)		Immunology
Fabry's Screen	Alpha Galactosidase, α-galactosidase	Lithium heparin	1bottle (4.0 mL)		Biochemistry
Factor Assays		Sodium Citrate	2.7ml		Haematology
Factor V Leiden		Potassium EDTA	1bottle (4.0 mL)		Haematology
FAI	Free Androgen; Androgen Index; SHBG	Gel SST	1bottle (3.5ml)		Biochemistry
FBC		Potassium EDTA	1bottle (4.0 mL)		Haematology

FDP	D-Dimer	Sodium Citrate	2.7ml		Haematology
Ferritin		Gel SST	1bottle (3.5ml)		Biochemistry
Fibroblast Growth Factor		Potassium EDTA	1bottle (4ml)	Store separated plasma frozen (-20 °C). Send sample FROZEN on DRY ICE (-70 °C) by courier.	Biochemistry
Filaria antibodies (IFAT)		Gel SST	1bottle (3.5ml)		Microbiology
Flecainide		Gel SST	1bottle (3.5ml)		Biochemistry
Folate (Serum)	Folic Acid	Gel SST	1bottle (3.5ml)		Biochemistry
Folic Acid	Folate (serum)	Gel SST	1bottle (3.5ml)		Biochemistry
Follicle Stimulating Hormone		Gel SST	1bottle (3.5ml)		Biochemistry
Free Androgen Index	FAI, Androgen Index, SHBG	Gel SST	1bottle (3.5ml)		Biochemistry
Free Kappa	Serum Free Light Chains	Gel SST	1bottle (3.5ml)		Immunology
Free T3	Triiodothyroxine	Gel SST	1bottle (3.5ml)		Biochemistry
Free T4	Thyroxine	Gel SST	1bottle (3.5ml)		Biochemistry
FSH		Gel SST	1bottle (3.5ml)		Biochemistry
Fructosamine		Gel SST	1bottle (3.5ml)		Biochemistry
G6PD assays		Potassium EDTA	1bottle (4.0 mL)		Haematology
GAD	Glutamic Acid Decarboxylase Ab	Gel SST	1bottle (3.5ml)		Immunology
GAD Antibodies	Glutamic Acid Decarboxylase Ab	Gel SST	1bottle (3.5ml)		Biochemistry
GAL1PUT	Galactose-PO4 Uridyltransferase, GALT	Lithium Heparin	1mL		Biochemistry
Galactokinase		Lithium Heparin	1mL		Biochemistry
Galactose-1-phosphate		Lithium Heparin	1mL	Store in fridge. Send by CitySprint at ambient	Biochemistry
Galactose-PO4 Uridyltransferase	GAL1PUT, GALT	Lithium Heparin	1mL		Biochemistry
GALT	Galactose-PO4 Uridyltransferase, GAL1PUT	Lithium Heparin	1mL		Biochemistry
Gamma Glutamyl Transpeptidase	Gamma Glutamyl transferase; Gamma GT	Gel SST	1bottle (3.5ml)		Biochemistry
Gamma Glutamyl Transpeptide	Gamma Glutamyl Transferase	Gel SST	1bottle (3.5ml)		Biochemistry
Gamma-enolase	ENO2, Neurone Specific Enolase (NSE)	Gel SST	250 µL		Biochemistry
Gamma-enolase	ENO2, Neurone Specific Enolase (NSE)	Gel SST	250 µL		Biochemistry
Gamma GT	GGT	Gel SST	1bottle (3.5ml)		Biochemistry
Gamma-vinyl-GABA	Vigabatrin	Gel SST	1bottle (3.5ml)		Biochemistry
Ganglioside Antibodies		Gel SST	1bottle (3.5ml)		Biochemistry
Gastric Parietal Cell	ANF	Gel SST	1bottle (3.5ml)		Biochemistry
Gastrin		Potassium EDTA	1bottle (4.0 ml)	Patient should be fasting. Sample to be transported to the lab immediately	Biochemistry
GB	GMB; Glomerular Basement membrane	Gel SST	1bottle (3.5ml)		Immunology
GBM	Glomerular Basement membrane Ab.;GB	Gel SST	1bottle (3.5ml)		Immunology
Genetics Test	Chromosome Analysis, Array CGH (aCGH)	EDTA Lithium Hep	4ml x 1 4ml x 1		Biochemistry
Genetics/karyotype		EDTA Lithium Hep	4ml x 1 4ml x 1		Immunology
Gentamicin		Gel SST	1bottle (3.5ml)	Trough Level	Biochemistry
GFR	Glomerular Filtration Rate, eGFR	Gel SST	1bottle (3.5ml)		Biochemistry

Glandular fever screen	Paul Bunnell; Monospot; Infectious mononucleosis; Epstein Barr	Potassium EDTA	1 bottle (4.0 mL)		Haematology
Gladin Antibodies	TTG; Coeliac Screen	Gel SST	1 bottle (3.5ml)		Biochemistry
Globulin		Gel SST	1 bottle (3.5ml)		Biochemistry
Glomerular Basement membrane Ab	GBM, GB	Gel SST	1 bottle (3.5ml)		Immunology
Glomerular Filtration Rate	eGFR, GFR	Gel SST	1 bottle (3.5ml)		Biochemistry
Glucan	BD Glucan	Gel SST	1 bottle (3.5ml)		Microbiology
Glucagon		Potassium EDTA	1 bottle (4.0 ml)	Sample should be transported to the lab immediately	Biochemistry
Glucosylase	(β) Beta-glucosidase, Glucosylase	Lithium heparin	2 bottles (5 - 8 mL)		Biochemistry
Glucose		Sodium Fluoride	1 bottle (2.0 ml)		Biochemistry
Glutamic Acid Decarboxylase Ab	GAD	Gel SST	1 bottle (3.5ml)		Biochemistry
Glutamate Pyruvate	SGPT; Alanine Transferase, Alanine Transaminase	Gel SST	1 bottle (3.5ml)		Biochemistry
Glycine		Lithium Heparin			Immunology
Glycogen storage enzymology		Lithium Heparin	7 - 10 ml	Send by CitySprint at ambient temperature to arrive WITHIN 24hrs. DO NOT FREEZE.	Biochemistry
Gonadotrophins		Gel SST	1 bottle (3.5ml)		
Granulocyte Antibodies		2 x Pink EDTA	2 x 6ml 4 x 3.5ml		Blood Transfusion
Group Children < 4 months		Potassium EDTA	Paed		Blood Transfusion
Group Children > 4 months		Pink EDTA	6ml		Blood Transfusion
Growth Hormone (GH)	Somatotropin, hGH	Gel SST	1 bottle (3.5ml)		Biochemistry
Gut Hormones	Vasoactive Intestinal peptide	Potassium EDTA	1 bottle (4.0 ml)	Sample to be transported to laboratory immediately	Biochemistry
H. influenzae antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Ham's Test		Potassium EDTA	1 bottle (4.0 mL)		Haematology
Haptoglobin		Gel SST	1 bottle (3.5ml)		Biochemistry
Hb electrophoresis screen	Haemoglobinopathy; Sickle and Thalassemia screen	Potassium EDTA	1 bottle (4.0 mL)		Haematology
HbA1c		Potassium EDTA	1 bottle (4.0 ml)		Biochemistry
HC03	Bicarbonate	Gel SST	1 bottle (4.0 mL)	Sample should be transported to the lab immediately	Biochemistry
HCG Ectopic	BETA HCGE	Gel SST	1 bottle (4.0 mL)		Biochemistry
HCG Tumour Marker	BETA HCGT	Gel SST	1 bottle (4.0 mL)		Biochemistry
HDL (in Lipid profile)		Gel SST	1 bottle (4.0 mL)		
Hepatitis A - HepA IgM - HepA IgG		Gel SST	1 bottle (3.5ml)		Microbiology
Hepatitis B - HepBs Ag - HepBs Ab		Gel SST	1 bottle (3.5ml)		Microbiology
Hepatitis B DNA	HBV DNA	Potassium EDTA	1 bottle (4.0 mL)		Microbiology
Hepatitis C		Gel SST	1 bottle (3.5ml)		Microbiology
Hepatitis C viral load / Hepatitis C genotype	HEP C RNA HCV RNA	Potassium EDTA	1 bottle (4.0 mL)		Microbiology
Hepatitis D		Gel SST	1 bottle (3.5ml)		Microbiology
Hepatitis E		Gel SST	1 bottle (3.5ml)		Microbiology
Herpes simplex antibodies		Gel SST	1 bottle (3.5ml)		Microbiology

Heterophile abs		Gel SST	1bottle (3.5ml)		Chemistry
HFE	Haemochromotosis	Pink EDTA	6ml		Blood Transfusion
hGH	Growth Hormone (GH), Somatotropin	Gel SST	1bottle (3.5ml)		Biochemistry
High-Density Lipoprotein		Gel SST	1bottle (3.5ml)		Biochemistry
Histone		Gel SST	1bottle (3.5ml)		Immunology
Histone Antibody		Gel SST	1bottle (3.5ml)		Biochemistry
HIT Screen		Gel SST	1bottle (3.5ml)		Haematology
HIV antibody / antigen		Gel SST	1bottle (3.5ml)		Microbiology
HIV PCR		Potassium EDTA	1bottle (4.0 mL)		Microbiology
HIV viral load / HIV resistance studies		Potassium EDTA	1bottle (4.0 mL)		Microbiology
HLA antibodies		2-6 x Pink EDTA 4 x Serum	2/6 x 6ml 4 x 3.5 ml	Please telephone the laboratory for advice before sending blood	Blood Transfusion
HLA B27		Pink EDTA	6ml		Blood Transfusion
HLA typing for transplant		<i>Donor</i> : 2-6 Pink	2/6 x 6ml		Blood Transfusion
		<i>Recipient</i> : 2-6 x Pink and 2 x Serum	2/6 x 6ml 2 x 3.5 ml		
Homocysteine		Lithium Heparin Potassium EDTA Gel SST	1bottle (3.5ml)	Sample should be transported to the lab immediately	Biochemistry
HPA antibodies		2-6 x Pink EDTA 4 x Serum	2/6 x 6ml 4 x 3.5 ml	Please telephone the laboratory for advice before sending blood	Blood Transfusion
HTLV 1/2 antibodies		Gel SST	1bottle (3.5ml)		Microbiology
Human Chronic Gonadotrophin	Beta-HCG, β -HCG	Gel SST	1bottle (3.5ml)		Biochemistry
Hydatid CFT		Gel SST	1bottle (3.5ml)		Microbiology
Hydroxycobalamin	Vitamin B12	Gel SST	1bottle (3.5ml)		Biochemistry
IF Antibody (Type 1 or 2)	Intrinsic Factor Binding Antibody, Intrinsic Factor blocking antibody, Anti-Intrinsic	Gel SST	1bottle (3.5ml)		Biochemistry
IGA		Gel SST	1bottle (3.5ml)		Biochemistry
IGE		Gel SST	1bottle (3.5ml)		Biochemistry
IGF-1	Insulin like Growth Factor 1, Somatomedin C	Gel SST	330 μ L		Biochemistry
IgG Aspergillus		Gel SST	1bottle (3.5ml)		
IgG subclasses		Gel SST	1bottle (3.5ml)		Immunology
IGG Subclasses	Immunoglobulin G Subclasses	Gel SST	1bottle (3.5ml)		Biochemistry
Immunoglobulin A		Gel SST	1bottle (3.5ml)		Biochemistry
Immunoglobulin G		Gel SST	1bottle (3.5ml)		Biochemistry
Immunoglobulin G Subclasses	IGG Subclasses	Gel SST	1bottle (3.5ml)		Biochemistry
Immunoglobulin M		Gel SST	1bottle (3.5ml)		Biochemistry
INR		Sodium Citrate	2.7ml		Haematology
Insulin		Gel SST	250 μ L	Separated within 30 minutes of venepuncture. Sample should be transported to lab immediately.	Biochemistry

Insulin abs	Diabetes Ab	Gel SST	1bottle (3.5ml)	
Insulin Antibody		Gel SST	1bottle (3.5ml)	
Insulin c-peptide	C-peptide, Proinsulin c-peptide	Gel SST	350 µL	Separated within 30 minutes of venepuncture. Sample should be transported to lab immediately.
Insulin like Growth Factor 1	IGF-1, Somatomedin C	Gel SST	330 µL	
Interstitial Cell Stimulating Hormone	Leutenising Hormone	Gel SST	1bottle (3.5ml)	
Intrinsic factor		Gel SST	1bottle (3.5ml)	
Intrinsic Factor Antibodies	IF Antibody (Type 1 or 2), Intrinsic Factor Binding Antibody, Intrinsic Factor blocking	Gel SST	1bottle (3.5ml)	
Intrinsic Factor Binding Antibody	Intrinsic Factor blocking antibody, Anti-Intrinsic factor, Intrinsic Factor Antibodies,	Gel SST	1bottle (3.5ml)	
Intrinsic Factor blocking antibody	Anti-Intrinsic factor, Intrinsic Factor Antibodies, IF Antibody (Type 1 or 2),	Gel SST	1bottle (3.5ml)	
Iron		Gel SST	1bottle (3.5ml)	
JD1	Part of ENA	Gel SST	1bottle (3.5ml)	
Keppra	Levetiracetam	Gel SST	1bottle (3.5ml)	
Ketones		Potassium EDTA	1bottle (4.0 mL)	
Kleihauer Test		Pink EDTA	6ml	
Lactate	Lactic Acid	Sodium Fluoride	1bottle (2.0ml)	
Lactate Dehydrogenase	Lactic acid dehydrogenase	Gel SST	1bottle (3.5ml)	
Lactic Acid	Lactate	Sodium Fluoride	1bottle (2.0 ml)	
Lactic Acid Dehydrogenase	Lactate Dehydrogenase	Gel SST	1bottle (3.5ml)	
Lamba	Serum Free Light Chains	Gel SST	1bottle (3.5ml)	
Lamictal	Lamotrigine	Gel SST	Blood: 2mL Serum: 1mL	
Lamotrigine	Lamictal	Gel SST	Blood: 2mL Serum: 1mL	
LDH	Lactate Dehydrogenase, Lactic Acid Dehydrogenase	Gel SST	1bottle (3.5ml)	
LDL		Gel SST	1bottle (3.5ml)	
Lead (Pb)		Potassium EDTA	1bottle (4.0 mL)	{Cannot 'share' specimen for other tests}

Leishmania IFAT		Gel SST	1bottle (3.5ml)	Microbiology
Leptospiral antibodies		Gel SST	1bottle (3.5ml)	Microbiology
Leutenising Hormone	LH, Interstitial Cell Stimulating Hormone	Gel SST	1bottle (3.5ml)	Biochemistry
Leuteotropic Hormone	Prolactin, Leuteotropin	Gel SST	1bottle (3.5ml)	Biochemistry
Leuteotropin	prolactin, Leuteotropic Hormone	Gel SST	1bottle (3.5ml)	Biochemistry
Levetiracetam	Keppra	Gel SST	1bottle (3.5ml)	Biochemistry
LH	Leutenising Hormone	Gel SST	1bottle (3.5ml)	Biochemistry

Lipase		Gel SST	1 bottle (3.5ml)		Biochemistry
Listeria antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Lithium		Gel SST	1 bottle (3.5ml)	Trough Level	Biochemistry
Liver Cytosol Antibody	Liver, Kidney, Microsomal Antibodies (LKM in autoimmune Profile 60)	Gel SST	1 bottle (3.5ml)		Biochemistry
LKM	Liver, Kidney, Microsomal Antibodies (LKM in autoimmune Profile 60)	Gel SST	1 bottle (3.5ml)		Biochemistry
Low Density Lipoprotein		Gel SST	1 bottle (3.5ml)		Biochemistry
Lupus Anticoagulant		Sodium Citrate	2.7ml x 2		Haematology
Lyme antibodies	Borrelia antibodies	Gel SST	1 bottle (3.5ml)		Microbiology
Lymphocyte Subsets	T Cell Subsets, CD4/CD8 Lymphocyte Subsets	Potassium EDTA	1 bottle (4.0 mL)		Biochemistry
Lysosomal Enzymes	White Cell Enzymes	Lithium heparin	2 bottles (5-8) mL		Biochemistry
MAG antibodies	Myelin Associated Glycoprotein	Gel SST	1 bottle (3.5ml)		Biochemistry
MAG/MOG abs		Gel SST	1 bottle (3.5ml)		Immunology
Magnesium	MG	Gel SST	1 bottle (3.5ml)		Biochemistry
Malaria Parasites	Malaria Screen	Potassium EDTA	1 bottle (4.0 mL)		Haematology
Malarial antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Maltase	(a) Alpha-glucosidase	Lithium heparin	3 - 10 mL		Biochemistry
Manganese		Potassium EDTA	1 bottle (4.0 mL)	Use plastic cannula or second draw if metal needle essential.	Biochemistry
Measles IgM		Gel SST	1 bottle (3.5ml)		Microbiology
Meningococcal DNA PCR - Blood		Potassium EDTA	1 bottle (4.0 mL)		Microbiology
Mercury (blood)		Lithium Heparin	4 mL		Biochemistry
Metanephrines (Blood)	Normetanephrines (Blood)	Potassium EDTA	1mL	Specimen to SPR within 15 minutes of collection	Biochemistry
Methanol (METH)		Blood/Urine	Sample	Plasma (fluoride oxalate) Serum from bel tubes NOT	Biochemistry
Methotrexate		Gel SST	1 bottle (3.5ml)		Biochemistry
Methylmalonic Acid (MMA)		Gel SST	1 bottle (3.5ml)		Biochemistry
MG	Magnesium	Gel SST	1 bottle (3.5ml)		Biochemistry
Monoclonal Band	MBand	Gel SST	1 bottle (3.5ml)		Biochemistry
MPO/PR3	Myeloperoxidase; PR3 Renal Screen; Request as ANCS.	Gel SST	1 bottle (3.5ml)		Immunology
Mullerian Inhibiting Factor (MIF)	Mullerian Inhibiting Substance (MIS), Anti Mullerian Hormone (AMH), Mullerian-	Gel SST	1 bottle (3.5ml)		Biochemistry
Mullerian Inhibiting Substance (MIS)	Anti Mullerian Hormone (AMH), Mullerian-Inhibiting Hormone (MIH), Mullerian	Gel SST	1 bottle (3.5ml)		Biochemistry
Mullerian-Inhibiting Hormone (MIH)	Mullerian Inhibiting Factor (MIF), Mullerian Inhibiting Substance (MIS), Anti Mullerian	Gel SST	1 bottle (3.5ml)		Biochemistry
Mumps IgG antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Muscle Specific Kinase Antibodies	MuSK Antibodies	Gel SST	1 bottle (3.5ml)		Biochemistry
MuSK abs		Gel SST	1 bottle (3.5ml)		Immunology
MuSK Antibodies	Muscle Specific Kinase Antibodies	Gel SST	1 bottle (3.5ml)		Biochemistry
Mycophenolate	Mycophenolic Acid	Potassium EDTA	1 bottle (4.0 mL)		Biochemistry
Mycophenolic Acid	Mycophenolate	Potassium EDTA	1 bottle (4.0 mL)		Biochemistry

Mycoplasma antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Myelin Associated Glycoprotein Antibodies	MAG Antibodies	Gel SST	1 bottle (3.5ml)		Biochemistry
Myeloma Screen	Protein electrophoresis & Immunoglobulins	Gel SST	1 bottle (3.5ml)		Immunology
Myositis antibodies		Gel SST	1 bottle (3.5ml)		Immunology
Needlestick injury Recipient		Gel SST	1 bottle (3.5ml)		Microbiology
Neuromyelitis Optica Antibodies (NMO)	Aquaporin Antibodies, AQP-4 Antibodies, Anti-Aquaporin-4 Antibodies	Gel SST	1 bottle (3.5ml)		Biochemistry
Neuronal Antibodies	Purkinje Cell Ab (Yo), Anti-neuronal nuclear antibodies 1(Hu), Anti-neuronal nuclear	Gel SST	1 bottle (3.5ml)		Biochemistry
Neuronal antibodies		Gel SST	1 bottle (3.5ml)		Immunology
Neurone Specific Enolase (NSE)	Gamma-enolase, ENO2	Gel SST	250 µL		Biochemistry
NH4	Ammonia	Potassium EDTA	1 bottle (4.0ml)		Biochemistry
NMDA abs		Gel SST	1 bottle (3.5ml)		Immunology
NMDA antibodies	N-Methyl D-aspartate	Gel SST	1 bottle (3.5ml)		Biochemistry
N-Methyl D-aspartate antibodies	NMDA antibodies	Gel SST	1 bottle (3.5ml)		Biochemistry
Noradrenaline (norepinephrine) (plasma)	Catecholamines, Dopamine, Adrenaline (epinephrine)	Test no longer			Biochemistry
Norclozapine	Clozapine, Clozaril	Potassium EDTA	2 mL		Biochemistry
Normetanephrines (Blood)	Metanephrines (Blood)	Potassium EDTA	1mL	Specimen to lab within 15 minutes of collection	Biochemistry
Normetadrenaline		Test no longer			
Nortriptyline	Amitriptyline	Gel SST	2 mL		Biochemistry
N-terminal pro B-type natriuretic peptide	Brain Natriuretic Peptide, NT-proBNP, B-type natriuretic peptide	Gel SST	1 bottle (3.5ml)		Biochemistry
NT-proBNP	Brain Natriuretic Peptide, N-terminal pro B-type natriuretic peptide, B-type natriuretic	Gel SST	1 bottle (3.5ml)		Biochemistry
Oestradiol	E2, oestrogen, 17β-oestradiol, 17 Beta-oestradiol	Gel SST	1 bottle (3.5ml)		Biochemistry
Olanzapine		Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Orosomucoid (ORM)	Alpha-1-acid Glycoprotein (α1AGP)	Gel SST	1 bottle (3.5ml)		Biochemistry
Osmolality		Gel SST	1 bottle (3.5ml)		Biochemistry
Oxalate (Plasma)		Potassium EDTA	1bottle (4.0 mL)	Send to laboratory immediately for spinning and freezing.	Biochemistry
P3NP	Procollagen III Peptide, Procollagen III N-peptide, P1INP, Procollagen-3 N-Terminal	Gel SST	500 µL		Biochemistry
Paracetamol	Acetaminophen, APAP	Gel SST	1 bottle (3.5ml)		Biochemistry
Paraneoplastic Antibodies	Paraneoplastic Antibodies, Neuronal Antibodies, Purkinje Cell Ab (Yo), Anti-	Gel SST	1 bottle (3.5ml)		Biochemistry
Paraprotein/PP	Protein electrophoresis	Gel SST	1 bottle (3.5ml)		Immunology
Parathormone	Parathyroid Hormone	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Parathyroid Hormone	Parathormone	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Parathyroid Secretory Protein	Chromogranin A (CgA) (CHGA)	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Parietal Cell Antibodies	PCA	Gel SST	1 bottle (3.5ml)		Immunology
Parvovirus DNA		Potassium EDTA	1 bottle (4.0ml)		Microbiology
Parvovirus IgM / IgG		Gel SST	1 bottle (3.5ml)		Microbiology
Paul Bunnell	Glandular Fever; Monospot	Potassium EDTA	1bottle (4.0 mL)		Haematology

PCA	Parietal Cell Antibodies	Gel SST	1bottle (3.5ml)		Immunology
Phenobarbital	Phenobarbitone	Gel SST	1bottle (3.5ml)		Biochemistry
Phenobarbitone	Phenobarbital	Gel SST	1bottle (3.5ml)		Biochemistry
Phenytoin	Epanutin	Gel SST	1bottle (3.5ml)	Trough Level	Biochemistry
Phosphate		Gel SST	1bottle (3.5ml)		Biochemistry
Phospholipids	BMS will decide if antiphospholipids is required after cardiolipin result.	Gel SST	1bottle (3.5ml)		Biochemistry
Phylloquinone	Phytomenadione, Phytionadione, Vitamin K	Gel SST	1bottle (3.5ml)	Protect sample from light.	Biochemistry
Phytomenadione	Phylloquinone, Vitamin K, Phytionadione	Gel SST	1bottle (3.5ml)	Protect sample from light.	Biochemistry
Phytionadione	Phylloquinone, Vitamin K, Phytomenadione	Gel SST	1bottle (3.5ml)	Protect sample from light.	Biochemistry
Pipicollic acid		Lithium Heparin	or CSF or Urine	Store frozen (-20°C). Send courier at ambient	Biochemistry
Pituitary Gonadotrophins		Gel SST	1bottle (3.5ml)		Biochemistry
PIIINP	Procollagen III Peptide, P3NP, Procollagen III N-peptide, Procollagen-3N-Terminal	Gel SST	500 µL		Biochemistry
Plasma Viscosity		Potassium EDTA	1bottle (4.0ml)		Haematology
Porphyrin (Blood)		Potassium EDTA	1bottle	Protect sample from light	Biochemistry
Potassium	Electrolytes	Gel SST	1bottle (3.5ml)		Biochemistry
Potassium channel abs		Gel SST	1bottle (3.5ml)		Immunology
Primidone		Gel SST	1bottle (3.5ml)		Biochemistry
Procalcitonin		Gel SST	1bottle (3.5ml)		Biochemistry
Procollagen-3N-Terminal Peptide	Procollagen III N-peptide, PIIINP, P3NP, Procollagen III Peptide	Gel SST	500 µL		Biochemistry
Procollagen III N-peptide	Procollagen III Peptide, PIIINP, P3NP, Procollagen-3N-Terminal Peptide	Gel SST	500 µL		Biochemistry
Progesterone		Gel SST	1bottle (3.5ml)		Biochemistry
Proinsulin		Lithium Heparin	(or Serum)	Separate immediately. Store frozen (-20°C). Send sample	Biochemistry
Proinsulin c-peptide	Insulin c-peptide, C-peptide	Gel SST	350 µL		Biochemistry
Prolactin	Leuteotropic Hormone, Leuteotropin	Gel SST	1bottle (3.5ml)		Biochemistry
Prostate Specific Antigen	Acid Phosphatase; PSA	Gel SST	1bottle (3.5ml)		Biochemistry
Protein electrophoresis	Paraprotein/PP; EP/SEP; Myeloma Screen	Gel SST	1bottle (3.5ml)		Immunology
Prothiaden	Dosulepin, Dothiepin, Desmethyl Dothiepin	Gel SST	1bottle (3.5ml)		Biochemistry
PSA	Acid Phosphatase, Prostate Specific Antigen	Gel SST	1bottle (3.5ml)		Biochemistry
Pseudocholesterase	Butyrylcholinesterase	Gel SST	1bottle (3.5ml)		Biochemistry
Pneumococcal antibodies		Gel SST	1bottle (3.5ml)		Microbiology
Pneumococcal Blood PCR		Potassium EDTA	1bottle (4.0ml)		Microbiology
PTH	Parathyroid Hormone; Parathormone	Potassium EDTA	1bottle (3.5ml)		Biochemistry
Purkinje Cell Ab (Yo)	Anti-neuronal nuclear antibodies 1 (Hu), Anti-neuronal nuclear antibodies 2 (Ri).	Gel SST	1bottle (3.5ml)		Biochemistry

Pyridoxal phosphate		CSF	Sample	Samples must be collected onto dry ice at bedside. Store frozen (-80°C). Send sample FROZEN on DRY ICE (-70°C) by courier. Samples must be sent before 12 p.m. if not possible keep in freezer until next working day.	Biochemistry
Pyridoxine	Vitamin B6	Potassium EDTA	1 bottle (3.5ml)	Protect Sample from light	Biochemistry
Q fever (Coxiella) antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Quantiferon TB gold		Lithium Heparin	2 x 6-8mls	Mon-Thurs only and must be received in lab before 2 p.m.	Microbiology
RAST	Aspergillus Precipitins	Gel SST	1 bottle (3.5ml)		Biochemistry
Red Cell Folate		Potassium EDTA	1 bottle (4.0 mL)		Haematology
Renal Screen	ANCA	Gel SST	1 bottle (3.5ml)		Immunology
Renin	Angiotensinogenase	Potassium EDTA	500µL		Biochemistry
Reticulin Antibodies	ARA (CTD Screen)	Gel SST	1 bottle (3.5ml)		Immunology
Reticulocytes	Retics	Potassium EDTA	1 bottle (4.0 mL)		Haematology
Retinol Binding Protein (RBP) and Proximal Tubular		Random Uriner		Store in fridge, send by courier at ambient temperature.	Biochemistry
Retinol	Vitamin A	Lithium Heparin	1 bottle (3.5ml)	Protect sample from the light	Biochemistry
Rheumatoid Factor	Rose-Waaler	Gel SST	1 bottle (3.5ml)		Biochemistry
Riboflavin	Vitamin B2	Potassium EDTA	1 bottle (4.0 mL)	Protect Sample from light	Biochemistry
Rickettsial antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Risperidone	9-hydroxyrisperidone	Potassium EDTA	2mL		Biochemistry
Rivaroxaban levels		Sodium Citrate	2.7ml		Haematology
Rivotril	Clonazepam	Gel SST	1 bottle (3.5ml)		Biochemistry
RNP	Part of ENA (CTD Screen)	Gel SST	1 bottle (3.5ml)		Biochemistry
Rose-Waaler	Rheumatoid Factor	Gel SST	1 bottle (3.5ml)		Biochemistry
Rubella contact (IgG and IgM)		Gel SST	1 bottle (3.5ml)	Contact laboratory Ext. 64250 for URGENT specimens	Microbiology
Rubella IgM		Gel SST	1 bottle (3.5ml)		Microbiology
Rubella screen IgG		Gel SST	1 bottle (3.5ml)		Microbiology
SACE	Serum Ace	Gel SST	1 bottle (3.5ml)		Biochemistry
Salicylate		Gel SST	1 bottle (3.5ml)		Biochemistry
SCL70	Part of ENA (CTD Screen)	Gel SST	1 bottle (3.5ml)		Biochemistry
Schistosoma /Bilharzia antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Secretogranin I	Chromogranin B (CgB) (CHGB)	Potassium EDTA	1 bottle (4.0 mL)		Biochemistry
Selenium		Trace Element	1 bottle		Biochemistry
Serum Amino Acids		Gel SST	1 bottle (3.5ml)		Biochemistry
Serum Amyloid A	Amyloid A	Gel SST	1 bottle (3.5ml)		Biochemistry
Serum Free Light Chains	SLC/SFLC; Free Kappa/Lambda	Gel SST	1 bottle (3.5ml)		Immunology

Serum glutamate pyruvate transaminase (SGPT)	Alanine Aminotransferase, Alanine transaminase	Gel SST	1bottle (3.5ml)		Biochemistry
Serum glutamic oxaloacetic transaminase (SGOT)	Aspartate aminotransferase, Aspartate transaminase	Gel SST	1bottle (3.5ml)		Biochemistry
Serum trypsin inhibitor Genotype	alpha-1 proteinase inhibitor Genotype, Alpha-1-Antitrypsin Genotype, A1AT	Potassium EDTA	1mL		Biochemistry
Sex Hormone Binding Globulin	Sex steroid-binding protein (SBP), Testis-specific androgen-binding protein (ABP), Testosterone-estradiol-binding globulin (TeBG)	Gel SST	1bottle (3.5ml)		Biochemistry
Sex Steroid-binding protein (SBP)	Sex Hormone Binding Globulin, Testis-specific androgen-binding protein (ABP), Testosterone-estradiol-binding globulin (TeBG)	Gel SST	1bottle (3.5ml)		Biochemistry
SGPT	Alanine Transferase, Serum Glutamate Pyruvate Transaminase, Alanine Transaminase	Gel SST	1bottle (3.5ml)		Biochemistry
SHBG	Sex Hormone Binding globulin	Gel SST	1bottle (3.5ml)		Biochemistry
Sickle Solubility test	Electrophoresis	Potassium EDTA	1bottle (4.0 mL)		Haematology
SLC/SFLC	Serum Free Light Chains	Gel SST	1bottle (3.5ml)		Immunology
SMA	Smooth Muscle antibody	Gel SST	1bottle (3.5ml)		
Smooth Muscle Antibody	SMA	Gel SST	1bottle (3.5ml)		
Sodium	Electrolytes	Gel SST	1bottle (3.5ml)		Biochemistry
Sodium Valproate	Vaproate, Valproic Acid, Epilim	Gel SST	1bottle (3.5ml)		Biochemistry
Somatomedin C	Insulin like Growth Factor 1, IGF-1	Gel SST	330 µL		Biochemistry
Somatotropin	hGH, Growth Hormone (GH)	Gel SST	1bottle (3.5ml)		Biochemistry
Specific IGE/RAST Test	Allergens listed	Gel SST	1bottle (3.5ml)		Immunology
Split bilirubin	Direct bilirubin, conjugated/unconjugated bilirubin	Gel SST	1bottle (3.5ml)		Biochemistry
Syphilis serology (STS/STD)		Gel SST	1bottle (3.5ml)		Microbiology
T Cell Subsets	CD4/ CD8 Lymphocyte Subsets, Lymphocyte Subsets	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Tacrolimus		Potassium EDTA	1bottle (4.0 mL)	pre dose/ trough sample	Biochemistry
Tacrolimus		Potassium EDTA	1bottle (4.0 mL)		Immunology
T-cell subsets		Potassium EDTA	1bottle (4.0 mL)		Immunology
Tegretol	Carbamazepine	Gel SST	1bottle (3.5ml)		Biochemistry
Teicoplanin levels		Gel SST	1bottle (3.5ml)		Microbiology
Testis-specific androgen-binding protein (ABP)	Sex Hormone Binding Globulin, Sex Steroid-binding protein (SBP), Testosterone-	Gel SST	1bottle (3.5ml)		Biochemistry
Testosterone		Gel SST	1bottle (3.5ml)		Biochemistry
Testosterone-estradiol-binding globulin (TeBG)	Sex Hormone Binding Globulin, Sex Steroid-binding protein (SBP), Testis-specific-	Gel SST	1bottle (3.5ml)		Biochemistry
TFT	Thyroid Function Test	Gel SST	1bottle (3.5ml)		Biochemistry
Theopental		Gel SST	1bottle (3.5ml)	Required urgently, discuss with lab first. Sample taken at least	
Theophylline	Aminophylline	Gel SST	1bottle (3.5ml)	Trough Level	Biochemistry

TIBC	Total Iron Binding Capacity	Gel SST	1bottle (3.5ml)		
Thiamine	Vitamin B1	Potassium EDTA	1bottle (4.0 mL)	Protect Sample from light	Biochemistry
Thioguanine Nucleotides	6-Thioguanine, 6-TGN	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Thiopurine Methyltransferase	Thiopurine S-methyltransferase	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Thiopurine S-methyltransferase	Thiopurine Methyltransferase	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
Thrombophilia Screen	Within the Thrombophilia Screen these tests may be requested individually: Prothrombin Gene: <i>1 x EDTA</i> Factor 5 Leiden: <i>1 x EDTA</i> APCRV: <i>2 x Sodium Citrate</i> Anti-Thrombin III: <i>2 x Sodium Citrate</i> Protein C: <i>2 x Sodium Citrate</i> Free Protein S: <i>2 x Sodium Citrate</i>	Sodium Citrate	(x4 bottles x 2.7ml)		Haematology
		Potassium EDTA	1bottle (4.0ml)		
Tissue Transglutaminase	Coeliac Screen, Anti Gliadin, Anti Endomysial	Gel SST	1bottle (3.5ml)		Biochemistry
Thyrocalcitonin	Calcitonin	Gel SST	400 µL		Biochemistry
Thyroglobulin		Gel SST	1bottle (3.5ml)		Biochemistry
Thyroid AB	TPD, Thyroid Microsomal ANTS	Gel SST	1bottle (3.5ml)		Immunology
Thyroid Peroxidase AB	TPD	Gel SST	1bottle (3.5ml)		Immunology
Thyroid Stimulating Hormone	Thyrotropin, Thyrotropic Hormone, TSH	Gel SST	1bottle (3.5ml)		Biochemistry
Thyrotropic Hormone	Thyroid Stimulating Hormone, Thyrotropin	Gel SST	1bottle (3.5ml)		Biochemistry
Thyrotropin	Thyroid Stimulating Hormone, Thyrotropic Hormone	Gel SST	1bottle (3.5ml)		Biochemistry
Thyroxine	Free T4	Gel SST	1bottle (3.5ml)		Biochemistry
Tobramycin levels		Gel SST	1bottle (3.5ml)		Microbiology
Topiramate		Gel SST	1bottle (3.5ml)		Biochemistry
Total IGE	IGE (In House check)	Gel SST	1bottle (3.5ml)		Immunology
Total Iron Binding Capacity		Gel SST	1bottle (3.5ml)		Biochemistry
Total Protein		Gel SST	1bottle (3.5ml)		Biochemistry
Toxocara antibodies		Gel SST	1bottle (3.5ml)		Microbiology
Toxoplasma IgG		Gel SST	1bottle (3.5ml)		Microbiology
TPHA/VDRL	Syphilis RPR	Gel SST	1bottle (3.5ml)		Microbiology
TPMT	Thiopurine Methyltransferase	Potassium EDTA	1bottle (4.0 mL)		Biochemistry
TPD	Thyroid AB; Thyroid Peroxidase AB	Gel SST	1bottle (3.5ml)		Immunology
Triglyceride		Gel SST	1bottle (3.5ml)		Biochemistry
Triiodothyroxine	Free T3	Gel SST	1bottle (3.5ml)		Biochemistry
Troponin I High sensitivity		Gel SST	1bottle (3.5ml)	Store frozen (-20° C). Send sample FROZEN on DRY ICE (-	Biochemistry
Troponin		Gel SST	1bottle (3.5ml)		Biochemistry
Trypanosome serology		Gel SST	1bottle (3.5ml)		Microbiology
Trytase		Gel SST	1bottle (3.5ml)		Immunology

TSH	Thyroid Stimulating Hormone	Gel SST			Biochemistry
TSH Receptor		Gel SST	1 bottle (3.5ml)		Immunology
TTG	Coeliac Screen; Endomysial AB; Anti Gladin AB	Gel SST	1 bottle (3.5ml)		Immunology
Typhus antibodies		Gel SST	1 bottle (3.5ml)		Microbiology
Unsaturated Iron Binding Capacity		Gel SST	1 bottle (3.5ml)	Suppressed Test	Biochemistry
Urate	Uric Acid	Gel SST	1 bottle (3.5ml)		Biochemistry
Urea		Gel SST	1 bottle (3.5ml)		Biochemistry
Uric Acid	Urate	Gel SST	1 bottle (3.5ml)		Biochemistry
Valium	Diazepam, Diastat	Gel SST	1 bottle (3.5ml)		Biochemistry
Valproate	Valproic Acid, Sodium Valproate, Epilim	Gel SST	1 bottle (3.5ml)	Trough Level	Biochemistry
Valproic Acid	Valproate, Sodium Valproate, Epilim	Gel SST	1 bottle (3.5ml)		Biochemistry
Vancomycin		Gel SST	1 bottle (3.5ml)	Trough Level	Biochemistry
Vasculitis Screen	ANCA	Gel SST	1 bottle (3.5ml)		Immunology
Vasoactive Intestinal peptide	VIP; Gut Hormones	Potassium EDTA	1 bottle (4.0 mL)	Sample to be transported to laboratory immediately	Biochemistry
Vasopressin	Antidiuretic Hormone, Arginine Vasopressin, AVP, ADH	Test no longer	5 mL	Specimen to SPR within 15 minutes of collection	Biochemistry
Very Long chain fatty acids (VLCFA)		Potassium EDTA	1 bottle (4.0 mL)		Biochemistry
Vigabatrin	Gamma-vinyl-GABA	Gel SST	1 bottle (3.5ml)		Biochemistry
Vitamin A	Retinol	Lithium heparin	1 bottle (3.5ml)	Protect Sample from light	Biochemistry
Vitamin B1	Thiamine	Potassium EDTA	1 bottle (4.0 mL)	Protect Sample from light	Biochemistry
Vitamin B12	Cobalamin	Gel SST	1 bottle (3.5ml)		Biochemistry
Vitamin B2	Riboflavin	Potassium EDTA	1 bottle (4.0 mL)	Protect Sample from light	Biochemistry
Vitamin B6	Pyridoxine	Potassium EDTA	1 bottle (4.0 mL)	Protect Sample from light	Biochemistry
Vitamin C	Ascorbate, Ascorbic Acid	Lithium Heparin	1 bottle	Call the laboratory ahead of taking a sample. Protect from light	Biochemistry
Vitamin D	Vitamin D2, Ergocalciferol, Vitamin D3, Cholecalciferol, 25-hydroxyvitamin D	Gel SST	1 bottle (3.5ml)		Biochemistry
Vitamin D2	Vitamin D, Ergocalciferol, Vitamin D3, Cholecalciferol, 25-hydroxyvitamin D	Gel SST	1 bottle (3.5ml)		Biochemistry
Vitamin D3	Vitamin D, Vitamin D2, Ergocalciferol, Cholecalciferol, 25-hydroxyvitamin D	Gel SST	1 bottle (3.5ml)		Biochemistry
Vitamin E	Alpha-tocopherol	Lithium Heparin	1 bottle	Protect sample from light	Biochemistry
Vitamin K	Phylloquinone, Phytomenadione, Phytanadione	Gel SST	1 bottle (3.5ml)	Protect sample from light	Biochemistry
Voltage Gated Potassium Channel Antibodies (VGKC)		Gel SST	1 bottle (3.5ml)		Biochemistry
Voltage Gated Calcium Channel Antibodies		Gel SST	1 bottle (3.5ml)		Biochemistry
Von Willebrand screen		Sodium Citrate	8.1ml (x3 bottles)		Haematology
Voriconazole level		Gel SST	1 bottle (3.5ml)		Microbiology
VZV (Chickenpox) screen IgG		Gel SST	1 bottle (3.5ml)		Microbiology
White Cell Cystine/Cystinosis		Lithium Heparin		Sample must arrive at referral laboratory within 24hrs. Send by CitySprint at ambient temperature.	Biochemistry

White Cell Enzymes	Lysosomal Enzymes	Lithium heparin	7-10 mL		Biochemistry
Zika virus		Potassium EDTA Gel SST	1bottle (4.0 mL)	Laboratory must receive <u>Urine</u> with these samples or they will not be processed	Microbiology
Zinc	Zinc	Trace Element	1mL		Biochemistry
α 1-Antitrypsin Genotype	Serum trypsin inhibitor, alpha-1 proteinase inhibitor, Alpha-1-Antitrypsin Genotype.	Potassium EDTA	1mL		Biochemistry
α -galactosidase	Alpha Galactosidase, Fabry's Screen	Lithium Heparin	5 mL		Biochemistry
β -HCG	Beta-HCG, Human Chronic Gonadotrophin	Gel SST	1bottle (3.5ml)		Biochemistry