Blood Sciences User Handbook

The User is asked to note the following:

Acceptance of a testing request by the laboratory acts as an agreement with the requestor. This means that a contract is established between the laboratory and the requester when the laboratory accepts a request. This will apply whether the request is written or electronic.

A note on UKAS ISO 15189 Accreditation

The GWH Blood Sciences laboratory is very keen to ensure it is completely clear to users which of its tests are UKAS ISO 15189 accredited and to positively demarcate these from those assessments that are not accredited.

Tests in the A to Z Table 8 on Pages 55 -113 that are performed in house but are not accredited are highlighted in yellow on their name in the left hand column.

Please note no point of care test is accredited. Please note at this time Haemoglobin Electrophoresis is not accredited.

The ongoing arrangements to seek referral laboratories that have the send-away test UKAS ISO 15189 (or equivalent) accredited still apply. The list of referral laboratories and the tests that the GWH sends to them can be inspected in Table 11 on Pages 153 -129.

The laboratory would ask if the UKAS Accredited status of any test whatsoever is not totally clear or might seem the least equivocal, please contact us without delay

Blood Sciences Manager Kirk Allott kirk.allott@nhs.net

Deputy Blood Sciences Manager Sejalben Patel sejalben.patel1@nhs.net

Table of Contents

1 INTRODUCTION

The Blood Sciences Service is provided by the laboratories at the Great Western Hospitals NHS Foundation Trust, Swindon. Blood Sciences comprises of Clinical Biochemistry, Haematology, Blood Transfusion, and Point of Care Testing (POCT). There is close co-operation with the separately managed Phlebotomy Service. Within the department, a formulary of tests is provided that reflect the usual demands of a contemporary District General hospital service. Specialist and Reference test services are used where necessary.

The Blood Sciences department operates a 24 hour service with a routine service available between 09:00 and 17:00 Monday to Friday, and the laboratory provides a core service for agreed priority tests outside of these hours. The Phlebotomy department provides an outpatients service Monday - Friday 08:30 - 17:15 and also a ward service weekdays 08:00 - 12:00, weekends 07:30 - 11:30 and Bank Holidays 07:30 - 13:30.

Consultant advice is available on-site during normal working hours and on an on-call basis at all other times.

An analytical and interpretative service is provided on a wide-range of clinical samples, processing over 560,000 requests each year. The efficiency of the service we provide is reliant on the cooperation of our users with the necessary policies relating to safety, sample transport and sample identification.

In its pursuit of excellence and as part of its continuous quality improvement programme the Blood Sciences service participates in all relevant internal and external quality assurance schemes. All laboratory work is carried out on up to date equipment in a modern laboratory which meets with all statutory requirements of a quality management system.

The repertoire of tests provided by Blood Sciences supports the Trust in its diagnostic and screening programmes.

The laboratory is accredited with the Institute of Biomedical Science (IBMS) for Biomedical Scientist training and Biomedical Scientist Specialist training. We also support the University of Bristol in the provision of clinical undergraduate training and the development of junior doctors at Great Western Hospital.

The Pathology services are fully computerised with all laboratories using Clinisys WinPath laboratory information system. Pathology results are available electronically via the Trust network at ward level or via the GP electronics links.

This book contains all of the information you require to use our service. However, please feel free to contact us to discuss any problems or issues you may have. Any comments or suggestions about the User Handbook should be addressed to the Blood Sciences Laboratory Manager.

2 LABORATORY LOCATION

The Department of Blood Sciences is part of the Family and Specialist Services, within the Great Western Hospitals NHS Foundation Trust. The department is located on the fourth floor of the main hospital building (see Figure 1 below). The front entrance to Blood Sciences is via the doors signposted 'Pathology Reception' from the hospital corridor.

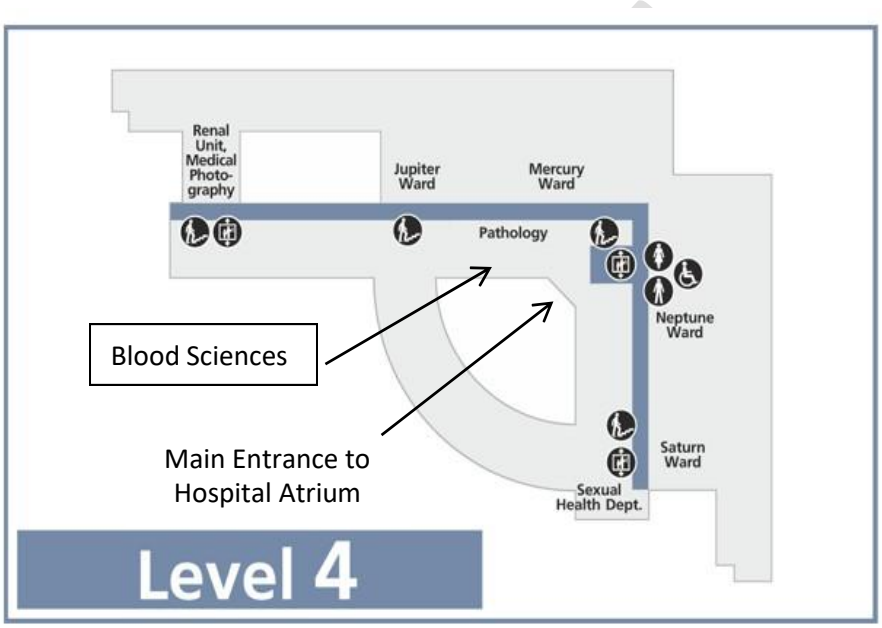


Figure 1

The postal address is as follows:

Blood Sciences
Department of Pathology
Great Western Hospitals NHS Foundation Trust
The Great Western Hospital
Marlborough Road
Swindon
Wiltshire
SN3 6BB

3 PATHOLOGY QUALITY POLICY

Quality Policy

The Pathology Department provides Microbiology, Cellular Pathology, Blood Sciences (incorporating Haematology, Biochemistry, Blood Transfusion and Point of Care Testing) and the Mortuary and Bereavement services to the Great Western Hospitals NHS Foundation Trust, Bath & North East Somerset, Swindon and Wiltshire Integrated Care Board (BSW ICB) and other users where such arrangements have been made.

The management of the Pathology Department is committed to delivering a service that is compliant with the requirements for Medical Laboratories set by the International Standard Organisation (ISO 15189:2022), Health and Safety Executive (HSE), UK Health Security Agency (UKHSA) - including the ANNB antenatal and new-born screening programmes for the participation in sickle cell and thalassaemia screening (SCT) and infectious diseases in pregnancy screening programme (IDPS), Medicines and Healthcare Products Regulatory Agency (MHRA) and the Human Tissue Authority (HTA).

The Pathology management team is fully committed to impartiality ensuring regular review of the service structure and the on-going development and improvement of laboratory services through the continual assessment of the Pathology Quality Management System and the establishment by means of regular meetings, internal and external audits, annual review of quality objectives during the Pathology Annual Management Review, participation in the Trust Improving Together programme and collaborative work with network partners within the South 4 Pathology Network.

The management of the Pathology Department is committed to good professional practice and the provision of examinations that are fit for intended use ensuring the delivery of a high-quality service that ensures that patients' well-being, safety and rights are at the forefront and that the service provided meets the requirements of its users. This commitment is reflected in the core values of the Quality Management System:

- The development of a friendly working environment dedicated to supporting training and development that encouraging the retention and recruitment of committed, highly professional staff.
- A commitment to maintaining a laboratory environment compliant with relevant legislation to ensure the health, safety and welfare of staff and visitors to the service.
- The provision of information on the collection, transportation and handling of all specimens to ensure the validity of results of laboratory examinations.
- The review of test repertoire, in conjunction with users, to ensure it is fit for intended use.
- The procurement and maintenance of appropriate equipment, reagents and consumables to assure provision of quality examinations of specimens including the development of digital pathology.
- Reporting of high-quality examination results in a timely, confidential, accurate and clinically useful manner.
- The provision of advice, in the context of clinical information, to support patient management.
- The engagement with users (e.g. by use of surveys, meetings, feedback, newsletters) to ensure that the Pathology service continues to meet their needs and requirements.
- Agreeing and monitoring quality indicators designed to improve our services to all our customers.
- To ensure all personnel are familiar with this quality policy and comply with the contents of the quality manual and all procedures relevant to their work to ensure user safety and satisfaction.

Dr Alex Sternberg
Consultant Haematologist & Joint Pathology Clinical Lead
10/09/2025

Noman Manzoor
General Manager for Pathology and Transfusion Services & Laboratory Director
10/09/2025

4 OPENING HOURS, CLINICAL ADVICE AND RESULTS

4.1 Laboratory Opening Hours

The laboratory is open:

Monday to Friday: 09.00 – 17.00 routine service

The Blood Sciences laboratory incorporating Clinical biochemistry, Haematology and Blood transfusion run a 24/7 shift service. The laboratory offers a full range of tests from 09.00 to 17.00 Monday to Friday. At all other times a core service for high priority tests is offered to match the reduced staffing levels.

The laboratory can be contacted on extension:

- Haematology 01793 604589
- Blood Transfusion 01793 604220/1
- Clinical biochemistry 01793 604291
- Coagulation calls 01793 6054502

Please be aware that there are limited numbers of staff available during these hours. Please be patient when contacting the laboratory as staff may be busy dealing with emergencies or liaising with other clinical teams.

Out of Hours
Between 17.00 and 09.00 a BMS is on-site and available via:

- Bleep 1148 for Haematology/ blood transfusion
- Bleep 1147 for Biochemistry.

4.2 Phlebotomy Services

A Phlebotomy service is provided to both wards and outpatient departments at The Great Western Hospital

Ward Rounds:

Weekday mornings:	08.15 - 12.15
Weekday afternoon:	Bleep Service (by contacting 1224/1870) 13:00 -16:15
Weekend mornings:	07:30 - 11:30
Weekend afternoon:	Bleep Service (by contacting 1224/1870) 11:30 -16:00
Bank Holidays:	Weekend service

4.2 Phlebotomy Services (continued)

Outpatient Department:

The outpatient Phlebotomy department is located on Level 3

Opening hours
Monday - Friday 08:30 - 17:15 (except bank holidays)

- Patients will generally be seen in order of attendance but priority is given to certain categories of patients.
- For GP requested specialist blood tests please contact the Phlebotomy Reception on 01793 60 50 41
- Blood tests requested by a General Practitioner should be carried out at the GP Practice unless otherwise agreed.

4.3 Clinical advice

Specialist clinical advice is available 24/7 for Haematology, Blood Transfusion and Clinical biochemistry.

Contact switchboard (01793 604020) and request the on call Haematologist or Chemical pathologist and specify that it is medical advice you require.

During the normal working day (between 09:00 and 17:00) clinical advice for Haematology and Blood Transfusion may be sought from a specialist Haematology registrar on DECT 7425 or on bleep:

- Bleep 2162 or 1135-Laboratory registrar.
- Bleep 2002- Day unit registrar.
- Bleep 1299- Clinic registrar.

For any routine, non-urgent clinical haematology advice we encourage the use of the advice and guidance service

Email address gwh.haematologyadviceandguidance@nhs.net.

4.4 Result Availability

Routine samples from priority locations (emergency department (ED), Intensive Care and the acute admissions wards) will be processed within one hour of receipt of the sample in the laboratory. For other locations on the Great Western Hospital site, results for routine tests should be available within 2 hours of receipt of the sample.

For off-site locations routine results will be available within 24 hours of receipt of the sample in the laboratory. Turn-round times for less common investigations may be longer, particularly if the sample is sent away for analysis. Arrangements can be made to accelerate certain tests as required – please contact the laboratory. An indicative turnaround time for each individual test is listed in the A-Z of tests in Section 13.
The laboratory continually monitors its turn-around times. For any queries or for detailed performance data please contact the Blood Sciences laboratory manager.

4.5 Urgent samples

There is a standing arrangement with ED and other acute wards that work will perform urgently. This means results for most tests will be within the hour of receipt. For wards within the Hospital the results of the most common tests will be available within 2 hours of receipt. For less common tests and for users outside the Hospital if a result is required urgently the laboratory should be notified by telephone so that we can prioritize the request. Please clearly state on the request form (if used) or state when requesting on the ICE requesting system that the sample is urgent. A brightly coloured specimen bag either red or yellow is exclusively provided to AED so work can be identified as coming from that area.

All other requests for work to be handled urgently must be made to the laboratory concerned by telephone. It is the responsibility of the requesting clinician to obtain the sample and arrange delivery to the laboratory. Please ensure that the request form (if used) or ICE request clearly states that the sample is urgent and that the contact details of the requesting clinician and location of the patient are clearly stated to allow results to be telephoned as soon as they are available.

For samples from the community the specimen bag should be placed inside an ordinary paper envelope clearly labelled on the outside as “urgent”. This will enable the laboratory staff to identify the specimens easily within the collection box. Please ensure there are appropriate contact details for results to be communicated outside of normal working hours.

4.6 Testing ‘out of hours’

The Blood Sciences out-of-hours service is fundamentally an urgent focused service. Staffing at these times is very limited therefore telephone calls may not be answered straight away as staff will also be undertaking their core tasks of providing a service to

acute users such as ED and others essential tasks such as analyser maintenance and quality control checks. (09:00 and 17:00 Monday to Friday is core hours).

4.7 Additional tests

Wherever possible, all tests should be requested at the time of submitting the sample to the laboratory. Requests for amendments or additional tests can be accommodated by completing the form available on the Intranet where available and sending to the laboratory via the pneumatic tube system see section 9.3. Where a request to add a test is made over the telephone an "add on test" form should be sent within an hour of the call being completed. Oral add on via telephone can be accepted from GPs, community services, wards with no access to pneumatic tube in condition of sample integrity & availability.

In general, additional tests must be requested within 48 hours of receipt of the sample in the laboratory. For technical reasons additional tests may not be possible and a fresh sample may need to be taken. If a test cannot be added this will be reflected in the report issued. Further advice can be obtained from the laboratory but always first please check this WHO guide to the stability of test analytes. This can be obtained from the laboratory or from the Blood Sciences laboratory manager.

For consent reasons – the COVID Antibody is not available as an "add on" test.

4.8 Accessing results

Pathology results are available electronically immediately after authorisation via Medway PAS at ward level or via the GP electronic links. Hard copies of reports agreed for limited areas are produced and returned daily Monday – Friday.

All laboratory results are returned to the requesting clinician who has ultimate responsibility for ensuring that results are actioned and communicated to the patient as appropriate. For any queries regarding results the laboratory enquiry telephone number is 01793 604293.
Please note that we need to establish the caller's identity before giving results over the telephone and we are unable to give results directly to patients or their relatives. It is Trust policy that staff must not access either their own results or those of friends or relatives.

4.9 Telephone results

It is policy that results of urgent investigations or any results that fall beyond established critical limits are telephoned to the requesting clinician. All other results will only be telephoned by prior arrangement.

4.10 Minimum re-testing interval

There is evidence to suggest that repeating tests too frequently adds little clinical value. Some tests have minimum repeat intervals will be highlighted on the report (the laboratory IT system blocks repeat tests within a specific timeframe). There are exceptions, but a minimum repeat interval of 12 hours is suggested for FBC (Full Blood Count). If you require a sample to be processed for a clinical indication, please discuss with on call haematology or clinical biochemistry. It is appreciated that circumstances can vary enormously but please consult the guidance document "National Minimum Re-testing Interval Project: A final report detailing consensus recommendations for minimum re-testing intervals for use in Clinical Biochemistry". This has been provided by the Clinical Practice Group of the Association for Clinical Biochemistry and Laboratory Medicine and supported by the Royal College of Pathologists. This can be obtained from the laboratory or from the Blood Sciences laboratory manager.

4.11 Retention of Specimens

The laboratory can receives over 2 200 specimens on a weekday and providing cold storage for this volume of specimens is a challenge. Routine Chemistry specimens will tend to be stored for four to seven days, and Haematology specimens will have a shorter retention time.

If you have reason for a specimen to be retained for a longer period, please contact the laboratory promptly. The retention of specimens is managed within a legislative framework. Please see section 15.3 where there is reference to arrangements in regard to The Human Tissue Act and other requirements.

4.12 Measurement of uncertainty

No measurement or test is perfect and imperfections give rise to error in the measurement of a result. Therefore a measurement or test only gives rise to an approximation of the true value. The spread in difference from the true value (the measurement uncertainty) is estimated and reported as part of good laboratory practice. Routine testing is backed up by a comprehensive programme of internal and external quality control.

The laboratory is ready to make its estimates of measurement of uncertainty available to users as well as details of internal quality control measurement and details of performance in external quality assurance schemes. Please contact blood sciences laboratory manager if required.

5 CONTACT DETAILS

Name	External Number	Internal Number
General Manager for Pathology and Transfusion Services Laboratory Director	07780250216	07780250216
Consultant Haematologist, Clinical Lead for Pathology	01793 605004	5004
Consultant Haematologist, Consultant Haematologist	01793 605004	5004
Consultant Chemical Pathologist	01793 604996	4996
Consultant Haematologist	01793 604503	4503
Consultant Haematologist	01793 605004	5004
Consultant Haematologist	01793 605005	5005
Blood Sciences Laboratory Manager	01793 607242	7242
Deputy Laboratory Manager	01793 607347	7347
Lead BMS Blood Transfusion	01793 604220/4221	4220/4221
Lead BMS Haematology / Coagulation	01793 604589	4589
Lead BMS Automation and point of contact with Chemical Pathology Referral Laboratories	01793 604291	4291
Lead BMS / Training Officer	01793 604291	4291
Lead BMS/ POCT Manager	01793 607031	7031
Laboratory	01793 604293	4293
Hospital switchboard	01793 604020	0

Table 2

6 SAMPLE COLLECTION

Accurate patient identification and proper labelling of samples are crucial in sample collection. Sampling conditions, specimen preparation and timely transport of the specimen to the laboratory are also necessary to ensure specimen integrity and accurate results.

6.1 Preparation of patient

On receipt of a sample in the laboratory it is assumed that appropriate consent for sampling and investigation has been obtained. **The responsibility for obtaining informed consent for the test resides with the individual ordering the test not the laboratory.**

Information for patients including instructions for patient-collected samples can be accessed at the Lab Tests online website. The laboratory or laboratory manager is ready to send you suitable extracts from this on request.

6.2 Optimum conditions for collection

Some tests have specific requirements for collection to enable interpretation of results. For example, a sample may need to be taken after the patient has fasted for a specified period.

Please see the A-Z of investigations for details of any special requirements associated with a particular test. Where these requirements are necessary, please ensure that details of compliance are established at the time of collection and recorded on the request form (if used) or stated when requesting on the ICE requesting system.

6.3 Unequivocal determination of patient identity

The person collecting the sample is responsible for positively identifying the patient. The patient should be asked to state their name and date of birth. This should be checked against the patient's wristband if an inpatient. The NHS number should be used if available as an adjunct to other identifiers and all details should match the request.

6.4 Identification of Person Collecting the Primary Sample and Time of collection

Always clearly record the identity of the person collecting the primary sample, the collection date and the collection time.

6.5 Blood Sample Collection

The Phlebotomy Service is run independently to Blood Sciences, and no attempt is made to give extensive guidance here. Some important key facts to remember including:

- Only use the vacuum container system to take blood rather than a needle and syringe. Artefact may affect results when using a syringe and decanting blood into vacuum tubes. There is also a risk of needle stick injury. Butterflies are available for 'difficult veins'.
- Do not remove tops from vacuum tubes to decant blood, the sample will leak.
- Use the correct blood tube for the test required- if in doubt please refer to the A-Z guide of tests in this document. Samples should be mixed gently after collection to ensure activation of any additive. Do not shake.
- Do not collect samples from an area where an IV infusion is running, this can create gross abnormalities in the results.
- It is crucial that coagulation bottles are filled to the fill line. Coagulation tests require a specific ratio of blood to the anticoagulant in the tube for results to be interpreted. Under-filled or overfilled tubes will therefore be rejected. If the patient is difficult to bleed and it is impossible to obtain sufficient sample please discuss with the laboratory it may be appropriate to use a paediatric tube.
- It is very important that samples are taken in the correct order to avoid contamination of samples with additives from the previous tube. This may adversely affect results. See figure on page 21 for the 'order of draw'.

For further guidance please see the WHO website that describes their Guidelines on Drawing Blood: Best Practices in Phlebotomy. The laboratory can supply details on request.

6.6 Health and safety issues relating to blood sample collection

It is the responsibility of the person collecting the specimen to ensure that it is properly labelled and safe for transportation (see Transportation of Samples).

Used sharps must be disposed of according to Trust policy (see Safe Handling and Disposal of Sharps Policy & Guidelines). This is the responsibility of the individual(s) who generates them.

Please see Section 10 for particular instructions e.g. regarding high risk specimens Refer to appropriate Trust policies for further information:

- Hand Hygiene and Skin Care Policy (including scrubbing gowning and gloving)
- Standard Infection Control Precautions Policy
- Safe Handling and Disposal of Sharps Policy & Guidelines
- Transportation of Samples

These are currently on the T Drive in the Trust – for users outside the Trust please contact the laboratory or the Blood Sciences Laboratory manager if a copy of any of the policies is required.

Users are required to follow the requirements of the Trust Sharps Policy - an extract follows on this page and over

Disposal of a Sharp Device

- Sharps should not be bent, broken or re-sheathed prior to disposal.
- The person assembling the sharps disposal container must sign the label attached to the bin to assume responsibility for its correct assembly.
- All containers must be secured / stored in an appropriate bracket / tray designed for sharps bin use to avoid accidental spillage, with the, temporary closure in place when not in use, at a height that enables safe disposal by all employees.
- Employees must take the sharps disposal container with them to ensure immediate disposal at the point of use - **USED sharps must never be carried in a receiver or on a tray, by hand or in pockets**. They must be disposed of directly into a sharps container, which should be placed next to the employee/patient so they can drop the use sharps directly into the sharps bin and the aperture should be visible to facilitate disposal.
- Once assembled for use, the sharps container must remain in the temporary closure position except when it is being used by the practitioner and therefore is under supervision. Sharps containers must not be left unattended in a public area when in use.
- At no time must any sharp be disposed of in such a way that is likely to cause injury to any other person, e.g. in a clinical waste sack, in the laundry with patients' linen, or in anything other than a designated sharps disposal container.
- Sharps disposal containers must be kept in a location where they are inaccessible to children and the general public. This is the responsibility of the user.
- Do not overfill sharps disposal container. When contents reach the manufacturer's marked fill line, ensure that the aperture is locked in the fully closed position and the label completed with the name of the ward/department and stored in the appropriate area for collection.
- All sharps disposal containers must be locked three months after first use even if the fill line has not been reached. For this reason, ensure the correct size container is supplied for the required use.

- Sharps containers should remain empty on the resuscitation trolley until required in an emergency situation.

- Ensure that the correct colour coded sharps disposal container is being used, e.g. Purple Lid and Label for cytotoxic and cytostatic waste and Yellow lidded for sharps that contain a quantity of medicinal product. Refer to the Waste Policy (Ref 2) for more information.
  Integrated Teams in the Community need to follow legislation/Trust Waste Policy and segregate their waste.

Users are required to follow the requirements of the Trust Sharps Policy - an extract follows on this page and on previous page

Disposal of a Sharp Device (continued)

- Ensure sharps disposal containers are used for the sole purpose of safe sharps disposal and no paper and other items.

- A giving set spike should remain embedded in the empty fluid bag and disposed of in an appropriate waste bag. (This would be an offensive waste bag from a non-infected patient or in a clinical waste bag if the patient has a known or suspected infection).

- A giving set that has IV fluid; not containing any chemical component, remaining in the bag should be cut and emptied to release the fluid down the sluice prior to disposal, as above. If the fluid does contain any chemical component such as Potassium Chloride dispose of the entire clamped set into a sharps disposal container. Please see Waste Policy

- There may be instances when an individual patient requires a sharps disposal container to be provided for personal use, this is to be identified when assessing the patient and communicated to the team caring for the patient.

- It is the prescriber's responsibility to ensure that the user is aware of how to dispose of the sharps bin in line with policy.

6.7 Urine Specimen Collection

Two types of urine collection are analysed in blood sciences:

1. Random Urine – Random urine samples can be mid-stream (MSU) or an early morning sample (EMU). Generally an EMU is preferable but is not essential.
2. 24 hour urine collections- the whole volume of urine voided over a 24 hour period.

It is important to use the correct container for the test required- (see A-Z of laboratory tests section 13)

- **Random Urines**

Urine specimens can be received in 20mL universal containers or dedicated 250mL CE marked leak proof containers. Red topped tubes contain boric acid preservative, which is useful for microbiology, however is unsuitable for chemistry analysis.

- **24 hour Urines**

There are several different indications for 24 hour urine collections. Different tests require different preservatives to be added to the bottles. To ensure you have the correct bottle for the test required please bring the request form to pathology reception on the 4th floor of GWH and reception staff will issue you with the appropriate bottle.

Patients should be given clear instructions on how to complete a 24 hour urine sample. Patient instruction leaflets are available from Lab Tests Online UK website. Patients are advised to empty their bladders down the toilet at a given start time, and from that point all urine should be collected. At the end of 24 hours the bladder is emptied and that urine added to the collection bottle.

24 hour urine collections are often incomplete. It is important that any deviation in collection is recorded on the request form (if used) or stated on the ICE request. Even if the sample is incomplete it may still yield some information and the patient should be advised not to discard the collection.

6.8 Cerebrospinal Fluid (CSF)

CSF samples must be taken using a strict aseptic technique by trained medical staff in line with Trust procedure. The procedure is currently on the T Drive in the Trust – for users outside the Trust please contact the laboratory or the Blood Sciences Laboratory manager if a copy of any of the procedure is required

- Dispense CSF (minimum 0.75mL in each bottle) into the required number of sterile single use containers for the investigations requested (usually 3 containers). Label each sample with the order that it was taken.
- If CSF glucose or lactate is required a sample of CSF should also be collected into a fluoride tube. A paired blood glucose sample is required.
- Avoid exposure to bright light for extended periods
- If CSF is being sent for flow cytometry the sample is sent away. Samples degrade quickly Therefore the specimen must be in the laboratory by 12.00 and the laboratory will require prior warning of its arrival in order that a courier can be arranged.
- If the sample is being sent for xanthochromia the specimen must be in the laboratory by 16.15 to be processed on the same day. Samples received after this time will be analysed the following full working day.
- Do not use the pneumatic air tube system for any requests that include xanthochromia.

6.9 Fluids - Pleural, Ascites and "Unknown Fluids"

The laboratory is geared towards the measurement of analytes in blood and urine. The laboratory does have the capacity to measure analytes in other fluids but it requires special dedicated preparation and there are limited reference ranges.

If analysis of fluid is required please clearly indicate what tests are required and the source of the material. Fluids should be sent in 20ml universal containers or dedicated 250mL CE marked leak proof containers. Please indicate if there is a particular high risk of infection - see section 10.

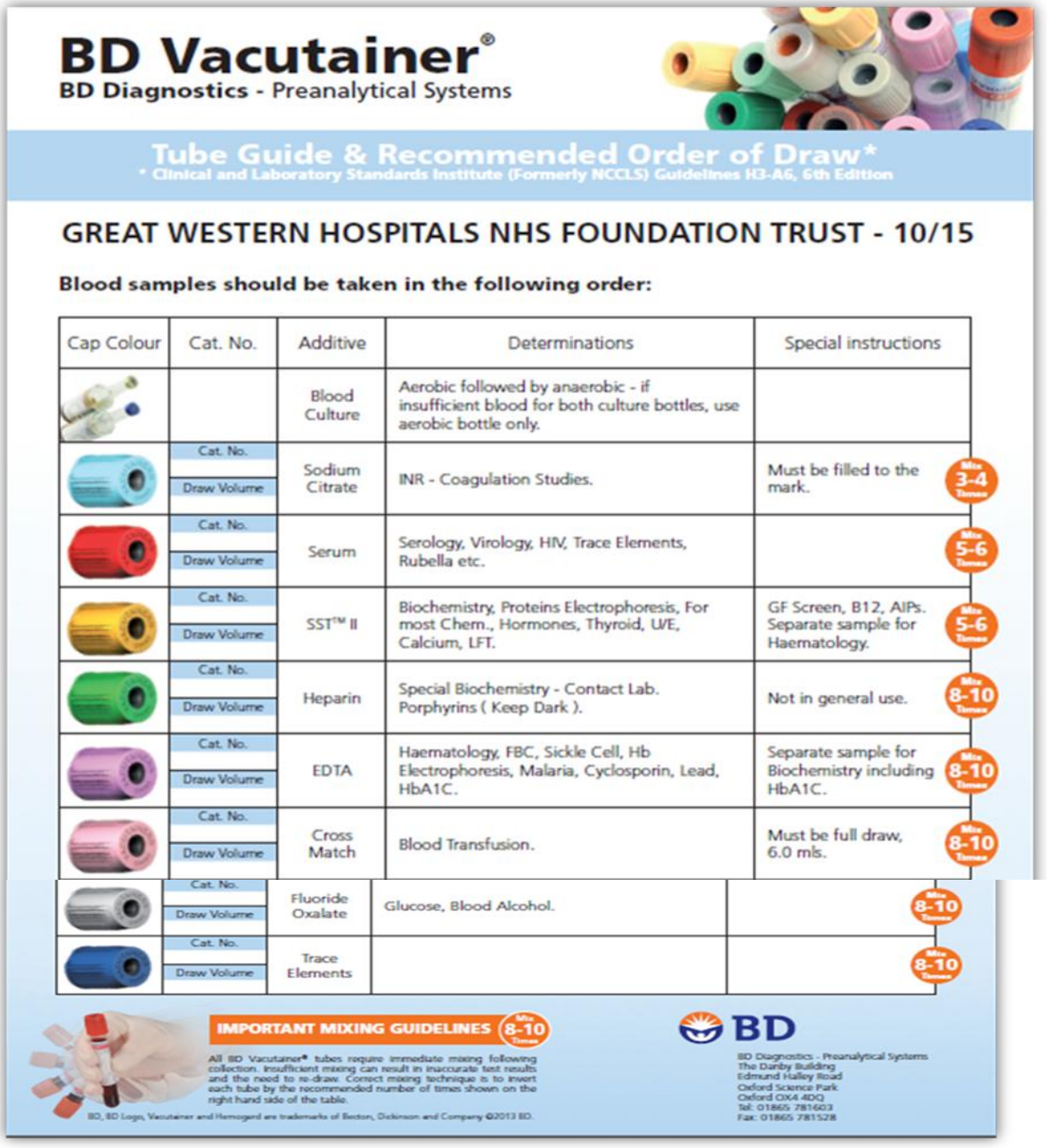
PLEASE NOTE THE GWH LABORATORY IS NOT ACCREDITED FOR TESTS ON DRAIN FLUIDS, PLEURAL FLUID, ASCITES AND UNKNOWN FLUDIS

ALSO HANDLE AND TRANSPORT THESE SPECIMENS WITH GREAT CARE DUE TO BIOHAZARD

7 SAMPLE CONTAINERS

7.1 Supply of specimen containers

In the event of any issue please contact the laboratory. See Figure 2 for the tubes issued by the Trust.



BD Vacutainer®
BD Diagnostics - Preanalytical Systems

Tube Guide & Recommended Order of Draw*
* Clinical and Laboratory Standards Institute (Formerly NCCLS) Guidelines H3-A6, 6th Edition

GREAT WESTERN HOSPITALS NHS FOUNDATION TRUST - 10/15

Blood samples should be taken in the following order:

Cap Colour	Cat. No.	Additive	Determinations	Special instructions
		Blood Culture	Aerobic followed by anaerobic - if insufficient blood for both culture bottles, use aerobic bottle only.	
	Cat. No. / Draw Volume	Sodium Citrate	INR - Coagulation Studies.	Must be filled to the mark. Mix 3-4 Times
	Cat. No. / Draw Volume	Serum	Serology, Virology, HIV, Trace Elements, Rubella etc.	Mix 5-6 Times
	Cat. No. / Draw Volume	SST™ II	Biochemistry, Proteins Electrophoresis, For most Chem., Hormones, Thyroid, LIVE, Calcium, LFT.	GF Screen, B12, AIPs. Separate sample for Haematology. Mix 5-6 Times
	Cat. No. / Draw Volume	Heparin	Special Biochemistry - Contact Lab. Porphyrins (Keep Dark).	Not in general use. Mix 8-10 Times
	Cat. No. / Draw Volume	EDTA	Haematology, FBC, Sickle Cell, Hb Electrophoresis, Malaria, Cyclosporin, Lead, HbA1C.	Separate sample for Biochemistry including HbA1C. Mix 8-10 Times
	Cat. No. / Draw Volume	Cross Match	Blood Transfusion.	Must be full draw, 6.0 mls. Mix 8-10 Times
	Cat. No. / Draw Volume	Fluoride Oxalate	Glucose, Blood Alcohol.	Mix 8-10 Times
	Cat. No. / Draw Volume	Trace Elements		Mix 8-10 Times

IMPORTANT MIXING GUIDELINES Mix 8-10 Times

All BD Vacutainer® tubes require immediate mixing following collection. Insufficient mixing can result in inaccurate test results and the need to re-draw. Correct mixing technique is to invert each tube by the recommended number of times shown on the right hand side of the table.

BD, BD Logo, Vacutainer and Hemogard are trademarks of Becton, Dickinson and Company ©2013 BD.

BD
BD Diagnostics - Preanalytical Systems
The Danby Building
Edmund Halley Road
Oxford Science Park
Oxford OX4 4DQ
Tel: 01865 781603
Fax: 01865 781528

Figure 2

7.2 Selection of appropriate container

Please refer to the A-Z Index for the selection of appropriate container for test.

Sample containers must be CE marked and within the expiry date. Specimen containers must be leak proof and sufficiently robust to withstand stresses during transit. Only containers approved by the Blood Sciences Department may be used to ensure sample integrity during transit to the Laboratory. Samples that are sent in non-approved containers may not be processed. It is the responsibility of the person sending the sample to the Laboratory to ensure that the container used for transportation is appropriate.

The container must be adequately closed to avoid leakage. Samples that have leaked in transit may not be processed by the Laboratory.

Blood Sciences shall annualy review during the Pathology Annual Management Review (AMR) the appropriate containers, preservatives & sample volume for all sample types

7.3 Labelling of sample containers (excluding Blood Transfusion see Section 12)

The sample container must be labelled with sufficient information to provide an unequivocal link with the request form (if used) or request information on the ICE request, and the patient from whom they are collected. This is the clinician's responsibility.

There are specific instructions for the labelling of Blood Transfusion samples- please see section 12

For all other specimens:

- The date and time of collection should be recorded on both the sample and the request form (if used) or stated on the ICE request.
- The time a sample was taken must be recorded for therapeutic drug monitoring. The request form (if used) or ICE request should include the time the drug was administered.
- The time must be recorded if multiple samples are taken from the same patient on a particular date.
- Time should ideally be recorded in terms of the 24 hour clock.
- For urine containers the type of specimen e.g. MSU, EMU should also be recorded.

Inadequately labelled samples may be rejected by the laboratory (refer to section 11 Sample Acceptance Criteria on page 35 (particularly the Table on page 36).

Blood Science will not accept specimens labelled with addressograph labels

7.4 Primary Sample Separation

In a condition where the primary sample needed to be separated (aliquot) Blood Sciences Department must ensures that all aliquoted sample shall be unequivocally traceable to the original (primary) sample

8 REQUEST FORMS – see Section 12 for arrangements in Blood Transfusion

8.1 General

All samples must be accompanied by an accurately and fully completed request form (if used) or be requested with a fully completed electronic ICE request. Test requests for Chemical Pathology and Haematology tests should preferably be requested via ICE rather than using paper forms (which should only be used when ICE is unavailable).

No verbal test requests are accepted - a request form/ICE request must be sent/made for each specimen.

There are specific instructions relating to requests for blood transfusion- please see section 12

For all other investigations the request form may be electronic or hand written and it is crucial the request includes the following information in a legible format:

A minimum Data Set for Identification:

- Patient's surname
- Date of birth /Hospital number / NHS number
- Patients address.
- Patient's gender.
- Patient category (PP/AQP/NHS).
- The name of Consultant or GP responsible for the patient.
- The requesting clinician, their location and contact details including details of any copy reports required.
- Specimen type including an indication if the sample confers a high risk of infection (see section 10).
- Date and time the sample was collected.
- Investigation(s) required.
- If a test requires any special collection conditions (e.g. fasting, timing) it should be clearly documented if these conditions have been met.
- Clinical information- Clinical information is crucial to the interpretation of results. This may include travel history, medication history or family history depending on the investigation requested (see A-Z of lab tests). If insufficient clinical information is provided the sample may be rejected.

If request forms or ICE requests are not correctly and legibly completed then the laboratory may cancel tests (refer to Sample Acceptance Criteria section 11).

Blood Sciences will review the format & details in request form (paper and electronic) annually to ensure that the information provided is correct.

8.2 Electronic requesting (ICE)

ICE (Integrated Clinical Environment) is a software application that allows clinical users to order pathology tests electronically and see results electronically.

For Blood Sciences test requests, electronic ICE requesting should be used to request Chemical Pathology or Haematology tests **only** – requests for Blood Transfusion should **NOT** be made on ICE; instead, solid red Blood Transfusion forms, Sample360 and Bloodhound must be used.

A brief description of how to use ICE to request tests is given below. This is not intended to be an exhaustive guide – ICE includes several other applications e.g. viewing reports, file (acknowledge receipt) and actioning reports, viewing unacknowledged reports and pathology results outside of reference ranges by using filters and ordering Microbiology and Radiology test requests. For more information about test requesting and other uses of ICE, users should refer to the full ICE User Handbook, short guidance videos, ICE FAQs and ICE Mobile e-learning courses that can be found in the IT Section of the Trust Intranet as well as referring to the other Pathology discipline User Handbooks.

- To login into ICE, click on the ICE Mobile desktop icon  , enter your ICE username and password and select 'Login'.

- To begin a request, search for the patient record by either: searching via the 'Patient Search' widget from the Home Screen by typing the patient name into the search box and selecting the correct patient record; or, using the Navigation Panel icon  to filter by patients in 'My' patient list, by location, by clinician or by clicking on the search icon  to search by defined search criteria.
- Once the correct patient record has been selected, click on the 'More Options' icon  to the right of the patient name and select 'New Request' or click on the 'Requesting' icon  .

- This opens two screens: 'Select Tests' and 'Request Details'. 'Request Details' contains a 'General Information' section that applies to the entire request e.g. requesting clinician, contact number etc. and an 'Order Information' section that applies to the test and/or test provider e.g. sample collection options (such as

immediate collection, booking collection by phlebotomy or for later collection), sample priority etc.

- If required, the patient requesting history can be reviewed by selecting 'Request History' or by clicking on the Request History icon .

- Under 'Select Tests', click on and type all or any part of the test code, description condition or disease to search for tests from the Blood Sciences test repertoire. The ICE requesting system will show those tests most commonly requested for Blood Sciences; should you require a test that is not visible please check the A-Z repertoire list (section 13.6) to ensure that the test is available and to check any other specific sample requirements.
- Select one or more tests to add them to the request. Tests that are defined as a collection (or group of tests) can be added be clicking on 'Select All' or removed by clicking on 'Deselect All'.

- After finishing the selection of all the required tests, continue to 'Request Details' or click on the 'Request Details' icon .

- Complete all required information as indicated by the following symbol . This may include information such as test information e.g. whether fasting is required etc. Please note that to reduce the number of inadmissible requests to the Blood Sciences laboratory, the completion of the 'Requesting Clinician' field is a **mandatory** requirement and the requesting clinician must be manually selected from the drop-down list when submitting the request.

- To submit the request, click . This option will only be available once all the required information for the request has been completed.

- To collect samples for the request just made, click on next to the patient name and select 'View patient pending samples' or click on the 'View samples pending for collection' icon .

- If required, to search for a pending request, select the Navigation Panel icon , select 'Samples' then search by patients in 'My' patient list or by location. Alternatively, the advanced search panel can be used to filter patients by clinic.

- If required, confirm the patient ID in the 'Confirm Patient' window by either scanning the patient ID barcode or by manually entering the patient ID. Select 'Confirm' to open the sample collection screen.

- The sample collection screen displays the required containers and current orders for that patient.

- All required containers for the requested tests are listed at the top of the screen. If a specimen container draw order is defined, the order is listed in ascending order. Alternatively, please refer to the Tube draw order table (Figure 2, Section 7.1).

- Samples can be marked individually or all at once as being collected or uncollected. To mark individual samples as collected, confirm that the toggle slider is set to 'Collected' and then click on 'Save'. To mark samples as not collected, move the toggle slider to 'Not Collected', type a reason for the samples not being collected and then click on 'Save'. Click to mark all samples at once as collected and select 'Collect' to confirm. Click to mark all samples as not collected, typing a reason for non-collection in the 'order not collected reason' window and confirm by selecting 'Not Collect' to confirm.

- Once samples have been collected, specimen labels can be printed from a suitable portable label printer. If a session printer is set, a printer window will open after the samples are collected, allowing the label(s) to be printed from the session printer. (A session printer must be set during each session prior to printing. To set or change a printer for the session, click on the More Options icon and select 'Set Session Printer', or click on the Scan a barcode icon on the top bar of the ICE Mobile Home Screen and scan a printer barcode to set the printer as the new session printer).

- When labelling patient samples, please ensure that the sample barcode labels are applied to sample tubes **vertically** **NOT** horizontally as the analysers in the laboratory can only read sample barcodes vertically. Also, please ensure that the sample label is completely stuck to the sample tube in the correct position with all edges fully smoothed down. Please make sure that the printed ICE label is placed over the pre-attached Vacutainer label (see Figure 3) on the tube as this acts as a guide for aligning the ICE label to ensure that an essential 'window' is left on the sample to allow visibility of the blood inside.

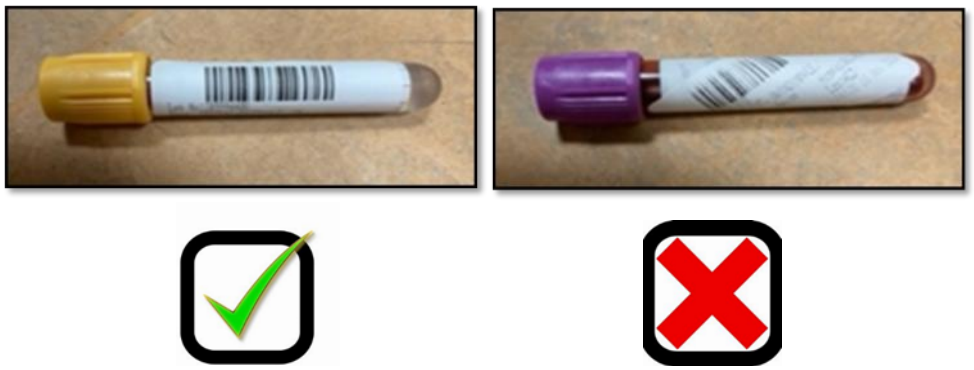


Figure 3

- Each ICE label must look like the following image (Figure 4), ensuring that the correct ICE label is placed onto the correct sample tube for the required test(s):

Figure 4

- **There may be a delay in providing results for samples which have poor quality barcodes or do not have labels correctly applied.**

- For blood taken into paediatric sample containers and for urine/CSF taken into universal containers, please ensure that extra labels are printed for use in the laboratory (these sample containers cannot be directly loaded onto the laboratory analysers) and that the sheet of labels is placed within the plastic sample bag to be transported to the laboratory with the sample(s).

- Make sure that the printer labels within the printer are correctly aligned before printing any sample labels. The barcode must be at the top of the label with the text below. If the labels have become misaligned within the printer, any affected labels must be reprinted.

- If the print roll is misaligned, open the printer using the levers on each side. Pull the reel until one full label is sticking out, and then close the printer. The labels can then be reprinted.

- To reprint any ICE labels you have just printed, click the 'Print' button at the end of the sample collection process (see Figure 5).

Figure 5

- ICE labels can also be reprinted by searching for the correct patient and clicking on the 'View Patient Requests' icon . Next, select the appropriate request and click the 'Print' icon to reprint the labels for this order (see Figure 6).

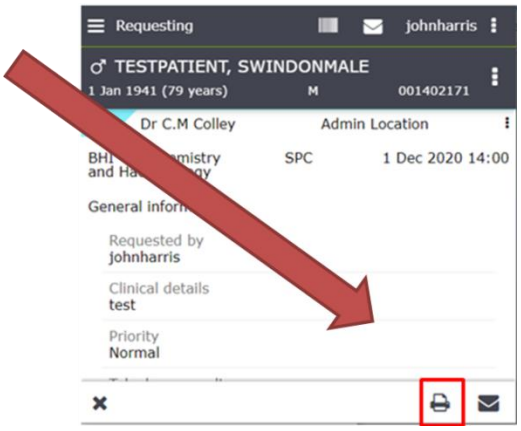


Figure 6

- **Ensure that the sample collection process is completed first before reprinting sample labels from the request screen – Failure to do so may risk the sample will be rejected by the lab.**

Please use electronic order-comm requesting via ICE for Chemical Pathology and Haematology requests where available. It is important to ensure that the correct sample accompanies the correct request form (if used or printed) before placing inside the sealed plastic sample bags to be sent to the laboratory. Samples taken within the hospital would not normally require a printed copy of the request form as all request information is contained within the sample barcode.

For Chemical Pathology and Haematology requests, paper request forms should only be used and will be made available as a contingency in instances when ICE is unavailable or for users who may not have access to ICE. However, requests for Blood Transfusion should continue to be made using the solid red forms as appropriate. Please refer to Section 8.3 and Section 8.5 for information regarding the use of Blood Sciences paper request forms.

8.3 Handwritten request forms

For contingency use and for those unable to access ICE:

Please write clearly! We will always endeavour to try and work with requestors and we

do understand that every blood draw is a significant event for the patient but if request forms are not correctly or legibly completed then the laboratory may cancel tests for the safety of the patient.

It is essential to use a **ballpoint** pen when completing request forms. The forms are multi layers of carbon paper and felt tip and fountain pens do not copy down to lower layers. When addressograph labels are used, please ensure that a label is fixed to EACH part of the request form and remember to sign the request form.

NB addressograph labels are not accepeted for use on samples.

8.4 Anonymous/uniquely identified samples

In certain circumstances patient identification details are intentionally hidden or substituted with particular ID numbers (e.g. Sexual Health, donor samples, and samples from unconscious or incoherent patients). In such instances, a properly coded identifier must be used in place of the patient last name and first name.

Unidentified Patients
Samples from unconscious or incoherent patients should be labelled with "UNKNOWN MALE OR FEMALE" and the emergency unit number.

8.5 Blood Sciences department request forms

For contingency use and for those unable to access ICE:

When ICE is unavailable, please use the appropriate red or green Chemical Pathology/Haematology/Coagulation form (Figure 7 and 8) for requesting tests. When requesting investigations for Chemical pathology or Haematology, please do not use request forms or attach samples intended for other pathology disciplines. However, blood samples taken for Virology should be requested using the red Chemical Pathology/Haematology/Coagulation blood form if ICE is unavailable. Blood Transfusion requests must be made using the solid red Blood Transfusion form (Figure 9) and cannot be requested electronically via ICE.

The following request forms are used by the Blood Sciences department – see Figures 7, 8 and 9 below and over.

GREEN FORM (URINE. FAECAL AND FLUID)

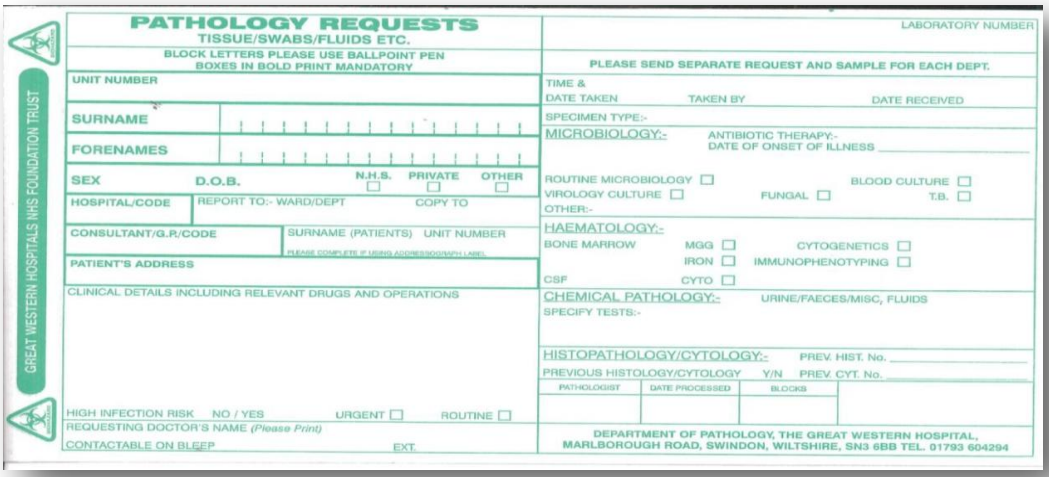


Figure 7

RED FORM (BLOOD CHEMISTRY, HAEMATOLOGY AND COAGULATION TESTS)

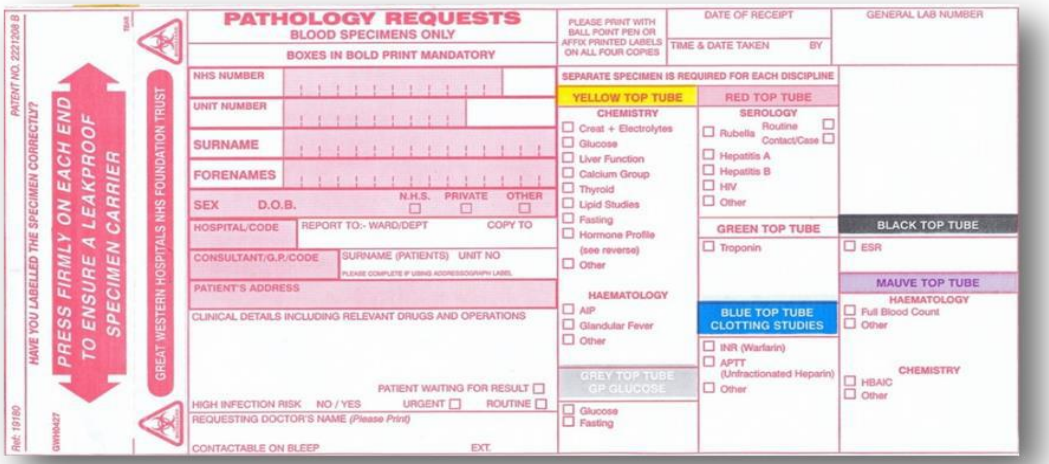
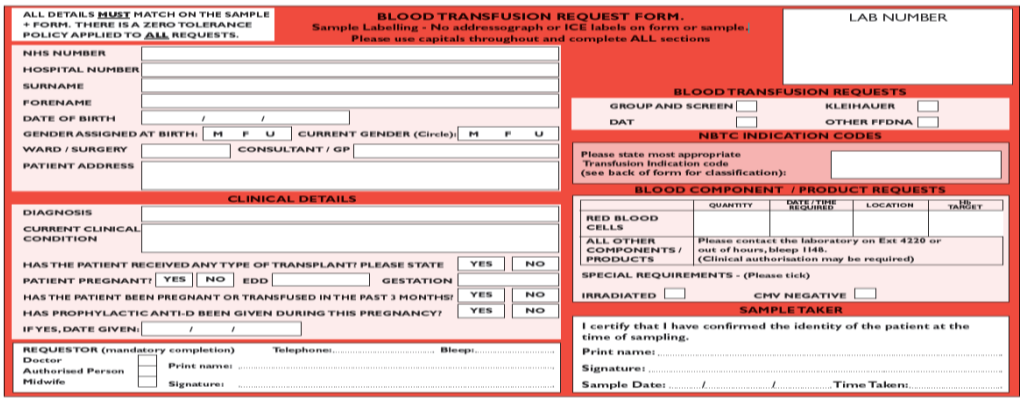


Figure 8

8.5 Blood Sciences department request forms (continued)

SOLID RED (BLOOD TRANSFUSION REQUESTS)



ALL DETAILS MUST MATCH ON THE SAMPLE + FORM. THERE IS A ZERO TOLERANCE POLICY APPLIED TO ALL REQUESTS.

BLOOD TRANSFUSION REQUEST FORM.
Sample Labelling - No addressograph or ICE labels on form or sample.
Please use capitals throughout and complete ALL sections

LAB NUMBER

NHS NUMBER
HOSPITAL NUMBER
SURNAME
FORENAME
DATE OF BIRTH / /
GENDER ASSIGNED AT BIRTH: M F U CURRENT GENDER (Circle): M F U
WARD / SURGERY CONSULTANT / GP
PATIENT ADDRESS

CLINICAL DETAILS
DIAGNOSIS
CURRENT CLINICAL CONDITION
HAS THE PATIENT RECEIVED ANY TYPE OF TRANSPLANT? PLEASE STATE YES NO
PATIENT PREGNANT: YES NO EDD GESTATION
HAS THE PATIENT BEEN PREGNANT OR TRANSFUSED IN THE PAST 3 MONTHS? YES NO
HAS PROPHYLACTIC ANTI-D BEEN GIVEN DURING THIS PREGNANCY? YES NO
IF YES, DATE GIVEN: / /

REQUESTOR (mandatory completion) Telephone: Bleep:
Doctor
Authorised Person Print name:
Midwife Signature:

BLOOD TRANSFUSION REQUESTS
GROUP AND SCREEN KLEIHAUER
DAT OTHER FFDNA

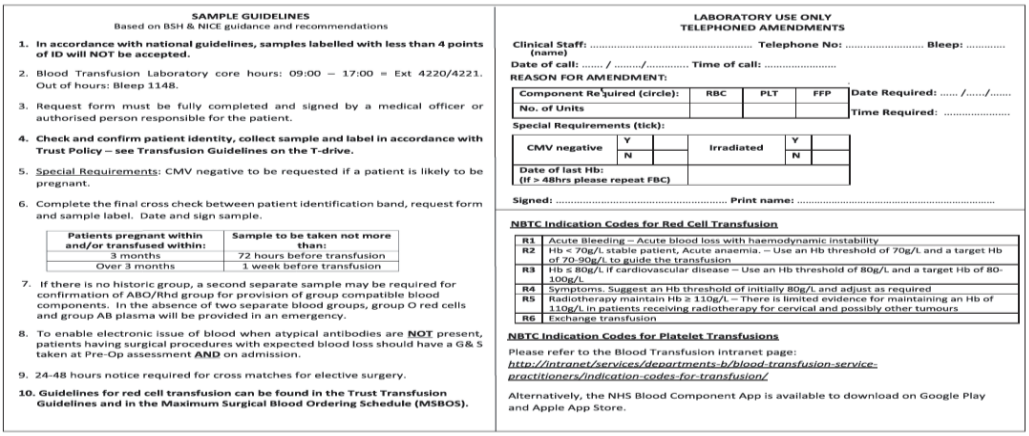
NBTC INDICATION CODES
Please state most appropriate Transfusion Indication code (see back of form for classification):

BLOOD COMPONENT / PRODUCT REQUESTS

	QUANTITY	DATE / TIME REQUIRED	LOCATION	Hb TARGET
RED BLOOD CELLS				
ALL OTHER COMPONENTS / PRODUCTS	Please contact the laboratory on Ext 4220 or out of hours, bleep 1148. (Clinical authorisation may be required)			

SPECIAL REQUIREMENTS - (Please tick)
IRRADIATED CMV NEGATIVE

SAMPLE TAKER
I certify that I have confirmed the identity of the patient at the time of sampling.
Print name:
Signature:
Sample Date: / / Time Taken:



SAMPLE GUIDELINES
Based on BSH & NICE guidance and recommendations

1. In accordance with national guidelines, samples labelled with less than 4 points of ID will NOT be accepted.
2. Blood Transfusion Laboratory core hours: 09:00 – 17:00 = Ext 4220/4221. Out of hours: Bleep 1148.
3. Request form must be fully completed and signed by a medical officer or authorised person responsible for the patient.
4. Check and confirm patient identity, collect sample and label in accordance with Trust Policy – see Transfusion Guidelines on the T-drive.
5. Special Requirements: CMV negative to be requested if a patient is likely to be pregnant.
6. Complete the final cross check between patient identification band, request form and sample label. Date and sign sample.

Patients pregnant within and/or transfused within:	Sample to be taken not more than:
3 months	72 hours before transfusion
Over 3 months	1 week before transfusion

7. If there is no historic group, a second separate sample may be required for confirmation of ABO/Rhd group for provision of group compatible blood components. In the absence of two separate blood groups, group O red cells and group AB plasma will be provided in an emergency.
8. To enable electronic issue of blood when atypical antibodies are NOT present, patients having surgical procedures with expected blood loss should have a G& S taken at Pre-Op assessment AND on admission.
9. 24-48 hours notice required for cross matches for elective surgery.
10. Guidelines for red cell transfusion can be found in the Trust Transfusion Guidelines and in the Maximum Surgical Blood Ordering Schedule (MSBOS).

LABORATORY USE ONLY
TELEPHONED AMENDMENTS

Clinical Staff: (name) Telephone No: Bleep:
Date of call: / / Time of call:
REASON FOR AMENDMENT:

Component Required (circle):	RBC	PLT	FFP	Date Required: / /
No. of Units				Time Required:

Special Requirements (tick):

CMV negative	Y		Irradiated	Y	
	N			N	
Date of last Hb: (If > 48hrs please repeat FBC)					

Signed: Print name:

NBTC Indication Codes for Red Cell Transfusion

R1	Acute Bleeding – Acute blood loss with haemodynamic instability
R2	Hb < 70g/L stable patient, Acute anaemia, – Use an Hb threshold of 70g/L and a target Hb of 70-90g/L to guide the transfusion
R3	Hb ≤ 80g/L if cardiovascular disease – Use an Hb threshold of 80g/L and a target Hb of 80-100g/L
R4	Symptoms. Suggest an Hb threshold of initially 80g/L and adjust as required
R5	Radiotherapy maintain Hb ≥ 110g/L – There is limited evidence for maintaining an Hb of 110g/L in patients receiving radiotherapy for cervical and possibly other tumours
R6	Exchange transfusion

NBTC Indication Codes for Platelet Transfusions

Please refer to the Blood Transfusion intranet page:
http://intranet/services/departments-b/blood-transfusion-service-practitioners/indication-codes-for-transfusion/

Alternatively, the NHS Blood Component App is available to download on Google Play and Apple App Store.

Figure 9

9.0 TRANSPORTATION OF SAMPLES

Please refer to the Trust Specimen Transportation Policy for the correct procedures for submitting samples to the laboratory. Trust documents are currently on the T Drive in the Trust – for users outside the Trust please contact the laboratory or Blood Sciences laboratory manager if a copy of the policy is required.

All samples should be delivered to pathology reception. The laboratory would be still keen to request that all specimens to Pathology currently need to be double bagged i.e. They should be sealed in a plastic bag attached to the request form (if used or printed) in its sleeve and then this whole bag is placed into another bag. This double bagging is now not a requirement, but the lab would encourage this as good practice. Any leaking samples are considered hazardous and may be destroyed.

Samples degrade, which can adversely affect results. All specimens should be delivered to the laboratory on the same day, ideally within 4 hours of collection. Some samples may have very specific requirements for transport e.g. must be kept warm or on ice. Please see A-Z guide laboratory investigations for any special instructions.

Most routine blood samples should be kept at an ambient room temperature (18 – 25°C) away from extremes of heat, cold and bright light and they should not be refrigerated. Agitation, bumping or rough treatment of samples should be avoided.

9.1 Transportation from external sites

The Hospital van service is not managed by lab Where users outside the Trust site are not using the van service, they need to ensure that their drivers are trained, and Risk Assessments prepared.

All specimens collected should be in appropriate containers and packaged into specimen bags which should be transported to the laboratory in dedicated Transport containers. Specimens are delivered to the laboratory via the Trusts transport service, and the times of these collections should be available locally. Delivery of quantities of specimen should be in the UN compliant dedicated Green Transport Bags.

If there is a breakdown in the normal arrangements or if your sample has missed the last collection of the day, please consider if you need to make a special arrangement for transport. Please call the laboratory to discuss urgency of test and most suitable means of transportation.

In cases of difficulty or further clarification, the laboratory enquiry telephone number is 01793 604294.

9.2 Transportation of samples within the hospital

Porters regularly collect routine samples from wards and outpatient's departments. Most samples may be sent direct to the laboratory via the pneumatic air tube system however see section 9.3 for further details and samples that can't be sent in this way.

Urgent samples must be sent to the laboratory immediately and arrangements need to be made with the portering service. It is the requesting clinician's responsibility to arrange transport of urgent specimens to the laboratory.

9.3 Leakages and Breakage

If a leakage into a transport box or bag occurs during the journey to the GWH Pathology Service, the Laboratory reception employee must be informed

immediately on arrival at the Pathology Specimen Reception. A non-conformance must be raised by Blood Sciences on the Quality management System (Q-Pulse). In the event of any leaks/breakages occurring during transport by road prior to arrival at GWH, the DGSA (Dangerous Goods Safety Advisor) should be informed.

On the rare occasion that a specimen is dropped and accidentally broken in the Laboratory, the Blood Sciences Department must ensure the ward/department/GPs is notified ASAP and an incident form completed.

9.4 Pneumatic air tube system

Blood Sciences are not responsible for the air tube system or the supply of pods. As soon as it is possible pods are sent back by the lab to their home "addresses". The pods have microchips in them such that they will go back to the source that they are pre-programmed to. The laboratory does not have a supply of pods to send.

Pathology address: 104

Please note that the air tube system is managed by Serco. Any failure of the system is to be reported to the Facilities Management Help Desk on 01793 60 4600.

The lab would ask that the following items must not be sent to the laboratory through the air tube system:

- Samples on ice
- Cryoglobulin or cold agglutinin samples.

The following directions for using the PTS are as prescribed by the Trust Infection Control Lead

What can / cannot be sent through the Pneumatic Tube System?

The PTS system is used for the transport of Pathology specimens and Pharmacy items within the GWH building.

The following Pathology Service items must NOT be sent through the system:

- Any items not correctly sealed in a specimen bag
- Any specimen container known or suspected of being faulty
- Blood packs (full or empty)
- Any Histopathology/Cytology slides/specimens
- Any specimen deemed to be a High Infectious Risk (refer to Section 3.4.2 and 3.4.3)
- CSF specimens for Xanthochromia examination (SAH)

Specimens that CANNOT be transported through the system are to be delivered to Pathology by hand or by use of the Portering Service ext. 4646.

10 HIGH RISK SAMPLES

All samples are regarded by the laboratory as potentially infectious. Separate procedures are used for the safe handling of samples from patients who are known, or suspected to have infections caused by hazard group 3 or 4 pathogens (described by ACDP guidance). For a copy of ACDP guidance please contact the laboratory or the Blood Sciences laboratory manager. The ACDP guidance describes:

High risk pathogens

- Hepatitis
- HIV
- Tuberculosis (samples from sites where tuberculosis infection is likely)
- E coli 0157
- Transmissible Spongiform Encephalopathy (including CJD)
- Typhoid/paratyphoid fever (faecal samples only)
- Dysentery (faecal samples only)
- Anthrax
- Brucellosis
- Transmissible Spongiform Encephalopathy (including CJD)
- Viral haemorrhagic fever
- Pandemic Flu

These lists are not exhaustive. If there is any suspicion of a high risk atypical organism advice on sample collection and transport should be sought from the Consultant Microbiologist.
It is the responsibility of the person taking the specimen from the patient to ensure that the request forms or ICE request 'Danger of infection' section is completed and the container are labelled to indicate a danger of infection.

The request form or ICE request must give sufficient information for laboratory staff to know what special precautions are necessary. In the interests of confidentiality only the warning label needs to be clearly visible to others.

Procedure for highlighting a high risk sample:

- Attach a "Danger of Infection" label to the sample container and request form (if used) for all qualifying samples (available from Phlebotomy Department, GWH)
- Specify the nature of the risk on the request form (if used)
- Use unambiguous and commonly recognised terminology
- Place the sample in a sealable plastic bag and close the seal

Samples should be transported to the laboratory in line with Trust Specimen Transportation Policy. Do not use the pneumatic air tube system for high risk samples. Trust documents are currently on the T Drive in the Trust – for users outside the Trust please contact the laboratory if a copy of the policy is required.

The Consultant Microbiologist must be contacted **BEFORE** collecting samples from a patient suspected of having a viral haemorrhagic fever (VHF), human avian influenza, SARS or CJD. These organisms require special transport arrangements and specialist laboratories designed for containment during manipulation of samples and cultures.

11. SAMPLE ACCEPTANCE CRITERIA

The laboratory will make every effort to ensure requests are processed in a safe and timely manner but it is essential that request forms or ICE requests and samples are labelled/completed appropriately and legibly in compliance with this policy. It is important to clearly identify the investigations required with relevant supporting information. The requesting clinician is responsible for the correct completion of the request form and the correct labelling of the sample.

Samples will not be accepted for analysis if

- There is no unique identification of the patient i.e. they do not meet the minimum data set for
  Identification
- Sample or request form (if used) is unlabelled or incorrectly labelled with less than the minimum data sets for patient identification
- Mismatch of details between the form or ICE request and sample(s)
- There is an incorrect sample type or tube
- Incorrect transportation conditions
- Sample is received in a hazardous condition e.g. leaking or sharps attached
- The information provided is illegible
- Samples are not unequivocally traceable, by request and labelling, to an identified patient or site
- Inadequate clinical information is provided

Any labelling discrepancy will be included on the Blood Sciences report. Please note where an unlabelled specimen is received from AED, AED will be phoned to advise This is the only area the lab will call to advise on mislabelled specimens

Inadequately or inaccurately labelled samples or forms/ICE requests will not be accepted unless they are considered to be unrepeatable or non-reproducible. A classification of unrepeatable or non-reproducible tests will be made by the Consultant Chemical Pathologist, Blood Transfusion Lead or Blood Sciences Management staff on an individual basis. The risk to the patient of rejection of the sample will be weighed against the risk of acceptance of a wrongly labelled sample. Blood Sciences will accept no responsibility for samples analysed which initially failed to meet the

acceptance criteria and will issue a disclaimer on such reports.

Where the sample is unrepeatable/non-reproducible, no analysis will be performed and an appropriate comment will be included on the Blood Sciences report. The event may be reported as an incident on the Trust incident report system.

PLEASE SEE OVER THE PAGE FOR AN "AT A GLANCE GUIDE TABLE "

SAMPLE IDENTIFICATION CRITERIA excluding Blood Transfusion

Laboratory Specimen Reception will check details on the request form/ICE request against the specimen for the following:

Essential criteria are listed in bold:

	Essential	Desirable
Sample	**3 points of identification of any 3 of the following:** • **First Name** • **Surname** • **Date of Birth** • **Hospital Number** • OR • **NHS Number** **2 Points of identification from the above, BUT one of these MUST be either hospital number or NHS number** In addition Date and time of collection is required	Unequivocal Identification of Specimen collector - phlebotomist name for blood (not initials)
Request Form	**3 points of identification of any 3 of the following:** • **First Name** • **Surname** • **Date of Birth** • **Hospital Number** • OR • **NHS Number** **2 Points of identification from the above, BUT 1 of these MUST be either hospital number or NHS number** **In addition**	• Patients Address including postcode • Gender • Clinical information including • Medication Time of dosing History of Travel and duration of signs and symptoms can be needed • Practitioner's contact number (bleep or extension) • Time and Date of Sample collection

	• Patient's location and destination for report • Patients consultant, GP or name of requesting practitioner • Investigation/s required	

Table 3

SAMPLE IDENTIFICATION CRITERIA in Blood Transfusion

- **Four points of ID matching sample and form, with date/time and signature on form and sample.**
- **Blood 360 labelling is accepted – no addressograph labels on samples or forms.**
- **GP labelling we do NOT accept locally printed samples labels. They must be hand written.**

It is imperative that all details match or samples will be rejected

12 BLOOD TRANSFUSION

Blood transfusion carries a clinical risk and blood components should only be prescribed when the benefit to patients outweighs the risks.

This is not intended to be an exhaustive guide. Please refer to the Trust wide transfusion policies and guidelines available on the T:/ drive (select Trust wide documents, blood-transfusion). These guidelines are kept regularly updated.

Contacts:

- Transfusion Laboratory Ext. 4220/4221
- Transfusion Laboratory manager- Ext. 4796

Transfusion Nurses:

Available 08.00-16.00 Monday-Friday

- Transfusion nurse practitioner- Ext. 4223
- Transfusion nurse- Bleep 2185
- Transfusion nurse- Bleep 1229

Haematology SpRs:

09.00-1700 Monday-Friday the haematology registrars are available for advice on

- Bleep 2162 or 1135- Laboratory registrar.
- Bleep 2002- Day unit registrar.
- Bleep 1299- Clinic registrar.

Consultants:

- Haematology consultant on call- can be contacted via switch board 01793604020
- Hospital Transfusion lead
- Haematology clinical lead for transfusion

12.1 Blood 360

Transfusion laboratories are required by law to demonstrate the fate of every blood component used with evidence of 'vein to vein' traceability. They are required to achieve 100% compliance. The GWH hospital uses Blood 360 as an electronic blood tracking system in addition sample 360, a Phlebotomy sample labelling system. These systems enable the laboratory to manage the entire transfusion process and maintain traceability.

Please note: Blood 360 is not yet available in the community hospital locations

- **Process for blood 360 downtime**

If the Blood 360 system is temporarily out of action the laboratory will inform high use areas. The procedure will be to revert to the downtime processes for Blood Collection and Traceability will be captured using manual admin logs. For any questions about the process please discuss with the laboratory or transfusion nurses.

- **Ordering blood components and taking blood transfusion samples**

All requests for tests carried out in the Blood Transfusion Laboratory must be made on a dedicated blood transfusion request form see section 8.5 page 29.

Errors in patient identification or sample labelling can lead to fatal ABO incompatible transfusion. Positive patient identification is essential at all stages of the blood transfusion process.

The laboratory operates a zero tolerance policy for requests and samples that do not adhere to this policy will be rejected.

- **Sample360 - positive patient identification**
  The Great Western Hospital uses sample360 to support best practice in positive patient identification and labelling of specimens. The system relies on the patients electronically generated bar coded wrist band to generate labels at the patient's bedside. This labelling system should be used wherever possible for transfusion

samples.

- Taking samples for blood transfusion:

- **Transfusion samples may only be taken by individuals who have completed training and competency assessment**
- For details of competency training please discuss with transfusion nurses.
- **Samples should always be labelled at the bedside.**
- **Blood must only be taken from one patient at a time.**
- **Tubes must be labelled by the person taking the sample.**
- **Sample tubes must NEVER be PRELABELLED or retrospectively labelled.**
- **Addressograph labels must not be used on either the blood samples or the request forms.**

- If the patient has an electronically generated bar coded wrist band:

- **The patient should be asked to confirm their full name and DOB and this should be compared with the wrist band.**
- **Samples should be labelled at the bedside.**
- **Never use a wristband that is not attached to the patient to generate labels.**

- In circumstances where the patient cannot confirm their identity and no relative/carer is available, to verify the patients' identification, the ID band will be the only means of positive patient identification.

12.2 Hand written samples and request forms

If the patient is not wearing an electronically generated bar coded wrist band, the patient should be asked to confirm their full name, DOB and the first line of their address. These details must match with the request form and the hospital record.

Where it is necessary to hand write the sample and request form the details must be legible and contain same as section 11 (Table 3) and fill out as much of the request form as possible.

PLEASE NOTE: If the location is not clear or missing, the result will not go back to the requesting system (e.g. CareFlow, SystemOne etc).

Any discrepancy will result in the specimen being rejected

In addition to the core patient identification details the following information is required

- Location of patient and where the blood is required.

- Diagnosis and any significant co-morbidity.
- Any past obstetric and transfusion history.
- If the patient is Antenatal the EDD or gestation must be provided.
- Any relevant transfusion history if known e.g. blood group antibodies, previous transfusion reactions.
- Reason for transfusion. ('Pre-op' is not acceptable.)
- Date when blood is required.
- Urgency of request.
- Number of units and type of blood, blood products or blood components, including any special requirements e.g. Cytomegalovirus (CMV) negative and/or irradiated.
- Date of request.
- Name of employee making the request, together with contact details (Telephone number / Bleep).
- Sampler's signature and printed name, together with contact number.

12.3 Special Requirement (including need for Irradiated Blood)

There is Trust Guideline that applies. Ordering Blood Components for Patients with Special Requirements – Clinical Guideline EDRMS000640 v2.0 Trust documents are currently on the T Drive in the Trust – for users outside the Trust please contact the laboratory if a copy of the policy is required.

- The Transfusion Laboratory must be informed immediately if a patient newly requires irradiated blood components.

- The lab can be informed either by telephone (01793 604220 or bleep 1148), in person, or by e-mailing the Irradiated Blood Group email group on gwh.bloodspecialrequirements@nhs.net. Relying on a transfusion request card alone is not acceptable.

- If the lab does receive a transfusion request card specifying irradiated components, in the absence of any other communication, irradiated blood components will be issued unless further enquiry to the requesting team deems this clinically inappropriate.

- It is the responsibility of the lab and clinical teams to ensure that the requirement for irradiated blood components is an alert on Careflow and the laboratories responsibility to add an alert to the LIMS system once notified for its requirement.

Failing to disclose special requirements may result in major morbidity or mortality. If the need for special requirements has previously been identified a CAREFLOW alert should be visible. If you are in any doubt about whether your patient has any special requirements please discuss with the transfusion nurses or clinical haematology.

12.4 ABO confirmatory testing - the two sample rule

All patients who have no historical blood group must have two group and save samples. This is to reduce the risk of a patient receiving an ABO incompatible transfusion due to identification errors, and it is requirement before group compatible blood can be issued. The samples must be taken in two separate venepunctures and a process of positive patient identification should be followed on each occasion.

Two samples taken at the same time point do not constitute a confirmatory sample as this will not protect the patient if they have been wrongly identified during Phlebotomy.

If a cross-match has been requested and there is no historical group the laboratory will contact the requesting clinician to request a second sample.
Fully cross matched blood will not be issued until two samples have been received. In cases of emergency group O Rh (D) negative or O RhD Positive blood will be supplied until the confirmatory sample has been received.

12.5 Planned Red Cell Transfusion

It is well established that the risk to patients from a blood transfusion are significantly greater during the out-of-hours period. It is essential that requests for non-urgent, planned transfusions are carried out during normal working hours.

There is not one universal trigger for red cell transfusion. However, red cell transfusions are unlikely to be indicated in the non-bleeding patient where the Hb is greater than (>) 100 g/l. NICE guidance recommends the following transfusion thresholds and targets:-

- Consider a Hb threshold of 70 g/l with a target of 70 – 90 g/l post transfusion
- Patients with ACS consider Hb threshold of 80 g/l with a target of 80 – 100 g/l post transfusion
- Consider setting individual thresholds and Hb concentration targets for each patient who needs regular blood transfusions for chronic anaemia
- For patients with haematinic deficiency consider whether transfusion is required, see trust policy for IV iron infusion.

12.6 Consent

Wherever possible, informed consent should be obtained prior to a blood transfusion and this should be documented in the patient's notes. **The responsibility for obtaining informed consent for the test or administration resides with the individual ordering the test not the laboratory.** Written information is available in the 'Will I Need a Blood Transfusion?' leaflet published by NHS Blood & Transplant (NHSBT). It is available in clinical areas or from the Blood Transfusion nursing team (extension 4223/ bleep 2185).

12.7 Transfusion Associated Circulatory Overload (TACO)

TACO is an increasingly recognised adverse complication of transfusion. When requesting blood please consider how many units are required based on the patient's body weight. The table below is a useful guide. As a general guide, **transfusing a volume of four millilitres per kilogram (mL/kg) will typically give a Haemoglobin (Hb) increment of 10 grams per litre (g/l),** Please use this calculation for any body weights not listed in the table 4 below. Table 4 continues over page.

Patient weight In kilograms (Kg)	four mL/kg	one unit (average 300mL) would raise Hb by approximately:
50kg	200mL	15g/l
55kg	220mL	13.6g/l
60kg	240mL	12.5g/l
65kg	260mL	11.5g/l
70kg	280mL	10.7g/l
75kg	300mL	10g/l
80kg	320mL	9.4g/l
85kg	340mL	8.8g/l
90kg	360mL	8.3g/l
95kg	380mL	7.9g/l
100kg	400mL	7.5g/l
105kg	420mL	7.1g/l
110kg	440mL	6.8g/l

Calculation used: Patient weight X 4 (mL/kg) = (A) Blood in mL to give Hb rise of 10g/l

300mL (average blood unit) divided by (A) X 10 = HB rise for 1 unit

Table 4

12.8 Notice required by the laboratory for routine/planned transfusion

The laboratory requires a 24 hour notice period for planned red cell transfusion. In exceptional circumstances a cross match for a routine transfusion can be done within 2 hours during normal working hours upon request.

Blood will be issued after ABO and Rh (D) groups have been checked and the blood has been screened for atypical antibodies. If there are atypical antibodies samples may need to be sent to NHSBT for further investigation, which may take up to 48 hours.

12.9 Patients with alloantibodies

If a patient has produced an alloantibody as a result of a previous transfusion or pregnancy it will be necessary to provide blood negative for the antigen. Patients with known antibodies should carry an antibody identification card.

If a patient is known to have an antibody - please provide this information on the request form and please give at least 48 hours' notice of a transfusion to allow appropriate antigen negative blood to be sourced.

Patients with known antibodies should not be transfused at weekends or out of hours.

If a new antibody is identified the laboratory will request a further sample for investigation of the antibody by the National Blood Service (NHSBT). This may result in a delay in supplying blood.

12.10 Complicated cross matches

The presence of allo- or autoantibodies can cause difficulties for the laboratory. The sample may need to be sent to an NHSBT reference laboratory. This may result in a delay in the ability to provide fully compatible blood.

If blood is required more urgently than it can be supplied, please discuss with clinical haematology on call.

12.11 Blood ordering for elective surgery

In elective & scheduled surgery, the likelihood of a blood transfusion being needed during the peri-operative period is closely related to the pre-operative haemoglobin and the type of planned procedure.
The scheduled procedure is categorised into three 'risk' groups for managing blood requirements:

- Very low risk (less than 1% require pre-operative transfusion)
- Low risk (1-5% transfusion risk)
- Medium risk (5-10%) / high risk (greater than 10%).

For each of the three risk groups, blood workups are further sub-divided based on the patient's haemoglobin, transfusion history & presence of antibodies.

For further information please refer to:
'Blood ordering for elective and scheduled surgery at the great western hospital clinical guideline' available on the T:/ drive.

12.12 Repeat transfusions (sample intervals)

When a patient has had a transfusion or a pregnancy within the last 3 months there is a risk that they will develop a new red cell antibody. These antibodies can cause serious transfusion reactions.

The crossmatch sample must be taken within 72 hours of the transfusion.

All transfusions must be completed within the 72-hour window of the sample being taken. After this time a repeat sample will be required.

Cross matched units will be made available for 24 hours. After this time the units will be returned to stock.

12.13 Blood issue fridges and emergency group O Rh (D) negative supplies

Great Western Hospital

Fridge location	Standard blood issue fridge.	Number of O Rh (D) negative units Adult packs	Number of Rh (D) negative units- Paediatric packs
Pathology reception (4th floor)	Yes	4	10
Theatres (1st floor)	Yes	2	0
Delivery suite (2nd floor)	Yes	2	1
Osprey Day therapy unit (3rd floor).	Yes	0	0

12.14 Urgent/immediate transfusion

If urgent transfusion is required, the blood bank must be informed, and the urgency of blood should be stated.

If there is massive blood loss the **'Major Haemorrhage Protocol for Obtaining Blood & Blood Components in an Emergency Protocol' (**accessed on the T:/drive) should be activated.

Community staff must call emergency services by dialling 999.

12.15 Activating the Major Haemorrhage protocol

Triggering the protocol in the Great Western Hospital is a two-step process:

- **Call the Transfusion laboratory (TL) on extension 4220 or bleep 1148**
- **Call the switchboard on 2222**
- The following exact phrase should be used **"I want to trigger the major haemorrhage protocol"** or for Paediatrics **"I want to trigger the Paediatric major haemorrhage protocol"**.
- **The caller must give: -**
- Location (may change. e.g. Emergency Dept to Theatre)
- Patient details (if unknown, give emergency issue identification (ID) number)- to TL only
- Name & contact telephone number of the senior clinical co-ordinator- to TL only.

12.16 Components issued following a Major haemorrhage Activation

The following components will be issued following a declaration of a Major haemorrhage.

Adults:

- Four units of red cells (O negative if blood group unknown)
- De-frost & issue 4 units of Fresh Frozen Plasma (FFP). (AB if group unknown) – I unit of Thawed AB OctoplasLG (equivalent to 1 FFP) is available immediately in the Issue fridge.
- Platelets will be requested (blue light) from Oxford if no suitable units available on site.

Paediatrics:

Please note the laboratory will issue whole units, the Paediatric/Medical Team attending will **need to calculate (10-20mLs /kg)** for volumes to be administered.

Staff declaring the major haemorrhage must be able to give the child's weight or estimated weight to the BMS. The declaration of the 'Paediatric major Haemorrhage' will trigger the lab to issue the below:

12.16 Components issued for major haemorrhage (continued)

Paediatrics (continued)

Weight	Red cells issued	Dose	Octaplas issued	Dose	Platelets issued	Dose
<5 kilograms (kg)	2 Paediatric Units (Volume (vol) 80 – 100 mL)	10-20mL/kg	1 unit Octaplas = 200 mL	10-20 mL/kg	50mL	10-20mL/kg
5 – 10.9 kg	1 Adult unit (Vol 250 mL)		1 unit Octaplas = 200 mL		110mL	
11 – 20 kg	2 Adult units (Vol 500 mL)		2 units Octaplas = 400 mL		200mL	
> 20 kg	4 adult units (Vol 1000 mL)		2 units Octaplas = 400 mL		200mL	

Table 6

While the haemorrhage and transfusion is on-going, red cells and FFP should normally be ordered in batches of four units and given on a ratio of 1:1. Platelets should be given according to platelet count and kept greater than 50 X 109 per litre (/l). Laboratory measurements of coagulation (APTT, PT and fibrinogen) and FBC should be undertaken after transfusion of each 'round' of blood components (4 x red cells, 4 x FFP/Cryoprecipitate and/ or, platelets).

12.17 Group O Rh(D) negative blood

Group O Rh(D) negative blood is stored in the blood issue fridges in pathology, theatres and the delivery suite. Two paediatric units are available in the delivery suite fridge (see section 12.3).

Note Group O Rh(D) negative blood is compatible in all blood groups but may cause transfusion reactions in patients with antibodies.

When blood is issued from the blood bank before full compatibility testing can be established the responsibility for the safety of the transfusion rests with the requesting /prescribing clinician and the laboratory will ask for the name of the authorising clinician.

A specimen for a group and antibody screen must be sent to the laboratory at the earliest opportunity so that group specific blood can be supplied and should be prior to any transfusions.

A quick identification of the patients ABO group can be carried out within 15mins allowing ABO group compatible blood to be issued. An antibody screen will be carried out retrospectively.

- Emergency group specific un-cross matched red cells- 15mins
- Urgent cross matched red cells with antibody screening- 50mins

In a community setting the initial response to haemorrhage would be to telephone 999 to arrange transfer to an acute hospital.

12.18 Traceability for emergency blood

If blood has been issued in an emergency without using Blood360 a confirmation of use (Manual Administration Log) form must be completed and returned to the laboratory.

12.19 Non red cell components

Non red cell components do not require a cross match but the blood group of the patient must be known before components can be issued (this will require 2 samples if there is no historic group).

Please see the 'use of blood components and blood products clinical guideline' available on the T:/ drive. If further advice is required please discuss with clinical haematology- (see contacts 13.1).

The following products are available on request from the laboratory:

Platelets
Platelets are not kept on site. They are obtained as required from the National Blood Service in Oxford. A routine blood order and delivery occurs twice daily Monday to Friday:

Morning delivery
Orders must be placed with the laboratory by 07.45am for delivery to the Blood transfusion laboratory by 11.20am +/- 30mins.

Afternoon delivery
Orders must be placed with the laboratory by 10.45am for delivery to the Blood transfusion laboratory by 14.00 +/-30 mins.

Outside of these times platelets can be delivered by "blue lights" from NHSBT, they may take up to 2 hours to arrive from the time the request is received.
Any ad hoc urgent platelet requests must be authorised by a haematologist (SpR or consultant).

- **Fresh frozen plasma (FFP) and cryoprecipitate:**

These products take up to 30 minutes to thaw and should be used as soon as possible for maximum effect. FFP should not be used for warfarin reversal.

Outside of a major haemorrhage the use of FFP, platelets or cryoprecipitate needs to be authorised by a haematologist (SpR or consultant), an up to date clotting result is essential (including fibrinogen if Cryoprecipitate is requested).

- **Pooled plasma products**
  The following products are available from the laboratory on request:

- **Human Albumin Solution 20% (HAS):**
  HAS is available from the laboratory on request. There are no restrictions. If it is not being used immediately it should be returned to the laboratory return to stock. It must not be stored locally.

- **Prothrombin complex concentrate (octaplex)**
  PCC is available for the management of life, limb or sight threatening haemorrhage associated with warfarin therapy.

It may be also used where there is bleeding in association with Direct oral anticoagulants (DOACS) but evidence for its use in this context is limited.

PCC must be authorised by the on call haematologist (consultant or registrar). The laboratory will require an INR result and the patients weight (in kilograms) to supply the correct dose.
For the Emergency Department only there is 3000iu of Octaplex issued and available for immediate collection from the Issue fridge, as per their protocol.

Anti-D

Routine Prophylaxis:
Routine prophylaxis is requested via GP practices and antenatal clinics. It should be requested during normal working hours using form BTR-F-130. Copies of the form should be held locally but are available from the laboratory on request.

A form BTR-F-132 will be issued with the anti D and must be returned ASAP to the laboratory on administration of the product for traceability purposes.

Sensitising events:
A 24 hour service is provided for the issue of anti-D for sensitising events. Form BTR-F-131 should be completed. Copies should be held locally but can be obtained from the laboratory on request.

A Form BTR-F -132 will be issued with the anti-D and must be returned ASAP to the laboratory on administration of the product for traceability purposes.

Post-natal:
Post-natal anti-D will be issued by the laboratory on receipt of a request for Kleihauer testing. A Form BTR-F-132 will be issued with the anti-D and must be returned ASAP to the laboratory on administration of the product for traceability purposes.

Clotting factors
Clotting factors are not routinely kept on site. Any patient requiring clotting factors will be managed in conjunction with the regional haemophilia centre in Oxford, who will supply factor concentrates if required.

12.20 Transfusion Reactions

Please refer to the trust guideline: 'the investigation and management of transfusion reactions and serious adverse events at great western hospital and community hospitals-clinical guideline' Available on the T:/drive.

It is mandatory that serious transfusion incidents are recognised, managed and reported to SHOT (serious hazards of transfusion) or SABRE (serious adverse blood reactions and events). In the event of a suspected transfusion reaction follow the trust guideline.

The laboratory must be contacted immediately so that appropriate investigation can be initiated and other available units or components can be withdrawn if necessary. All suspected transfusion reactions will be investigated by the laboratory and the hospital transfusion team, who will report to SHOT and SABRE if required.

A trust clinical incident form (DATIX) must be generated.

If you require any clinical advice regarding a suspected transfusion reaction please contact the on call haematologist.

13. REPERTOIRE OF TESTS (A – Z)

This section covers the tests that the Blood Sciences department offers according to the service repertoire agreed with our users.

A full list of the Blood Sciences UKAS accredited tests can be seen on the Schedule of Accreditation, see (PAT-EX-339)

All tests which are not currently accredited to UKAS ISO15189 standards, are offered as an unaccredited service.

Find a test or clinical condition using the A – Z list. With each test we provide the following information where appropriate:

- Name of test and common pseudonyms
- Examinations offered
  - Which sample containers are required
  - What specimen type is required
  - What sample volume is required
  - Which request form (if required) should be used

- Sample instructions
  - Collection of the specimen
  - Specimen transportation requirements
  - Specimen storage requirements
  - Special requirements for performing this examination

- Laboratory information
  - What test will be performed in a profile e.g. U/E
  - Measurement units of examination performed
  - Biological reference intervals of examination performed
  - Turnaround time of examination performed
  - When the test is available i.e. how often the lab runs the test – daily/weekly/weekdays only is indicated by the Turnaround time please ask the lab if details are required.

- Clinical information
  - Factors known to significantly affect the results

For test cost maybe available on request, for more information please contact the Laboratory

For more information on any of these tests see the website Lab Tests Online UK website. In the event of any issue or need for more information please contact the Laboratory

13.1 Reference Intervals

Reference intervals for any test are specific to that test and laboratory methodology. They can also vary by many other factors such as gender and age. Reference intervals will be displayed with the patient results taking these factors into account. This is why many of the tests in the table say “See Report”. Please consult the laboratory if we can supply more information.

These will be available, whether the result is sent via paper, through ward/web enquiries or via the electronic links to General Practice.

Biological reference intervals and clinical decision limits will be periodically reviewed by appropriate Clinicians within Blood Sciences, and any changes will be communicated to users.

The laboratory provides a range of specialist testing which is undertaken at reference centres. These tests are indicated within section 14. Please contact the laboratory on Telephone 01793 604286 for details of the tests offered, name and location of the testing laboratory and information regarding any special sample requirements.

13.2 Turnaround Times

Please note that the Turnaround Time in the A to Z table is indicative. On occasions tests can be performed quicker - for certain areas where clinically indicated **and** where there has been agreement with the laboratory. All Turnaround Times apply from the time the specimen arrives in the laboratory to the time the result is available - but it is appreciated that the time from sample collection to result availability is the important measure.

13.3 Breadth of Repertoire

The table provided aims to cover nearly all of the tests that can be expected from this laboratory's users. It would not be desirable, if feasible, to cover all of the tests that may be required in every conceivable situation. Please contact the laboratory if the test you require is not listed.

13.4 Test profiles

13.4.1 General

These are provided in the table but for the most commonly used please note the given tests:

U/E: Sodium, Potassium and Creatinine

LFT: Albumin ALP, ALT, Bilirubin and Total Protein

BONE PROFILE: Calcium, Albumin, Phosphate, ALP, Total Protein

CALCIUM PROFILE: Calcium, Albumin, Phosphate, ALP, Total Protein

MYELOMA SCREEN: Electrophoresis. Albumin, Total Protein

FBC

HGB,RBC,HCT,MCV,MCH,MCHB,RDW,RBC,NEUT,LWMP,MONO,EOS,BASO,PLAT,MPV & NRBC

13.4 Test profiles (continued)

13.4.2 Profiles – COVID

The Trust COVID Profile is dependent on gender as male and female HS Troponin Tests have different reference ranges.

COVID PROFILE (Male) High Sensitivity Troponin Male, D-Dimer, CRP, Ferritin, FBC, U/E, Creatinine, LFT, Coagulation Screen, Fibrinogen and Glucose

COVID PROFILE (Female) High Sensitivity Troponin Female, D-Dimer, CRP, Ferritin, FBC, U/E, Creatinine LFT, Coagulation Screen, Fibrinogen and Glucose

13.4.3 Profiles - Coagulation Testing

When a coagulation test is requested the following tests are performed

PT (Prothrombin Time) and APTT (Activated Partial Thromboplastin Time) PTR and APTR ratios are calculated

Patients on warfarin should have the following test: INR

APTT if requested will be performed

Fibrinogen needs to be requested as a distinct separate test

13.4.4 Blood Films and Bone Marrow Smears

Blood films will be examined for pre-specified abnormalities of certain parameters in the blood count. In addition, users may request a blood film when they request a full blood count. Most films will be authorised by the laboratory BMSs but where they have clinical concerns they are referred to a clinician for further interpretation.

Bone marrow smears can only be requested by the haematology department. If your patient requires a bone marrow please refer to the Specialist Registrar in Haematology. The bone marrow smears are reported by haematology medical staff in conjunction with other clinically relevant data such as cytogenetics, immunophenotype and molecular genetics.

13.5 Point of Care Testing

The laboratory has a key role in the co-ordination of point of care testing (POCT) for users. These cover Blood Gas machines, Coaguchek, Blood Glucose and Blood ketone meters. Please contact us for support and advice with any enquiry regarding POCT in the first instance by contacting Lead BMS/ POCT Manager on 01793 607031. Tests performed under POCT are not covered within the scope of UKAS ISO15189 accreditation. The Ambulatory Care POCT Suite has an AQT available for D Dimer Testing

Location and repertoire on Blood Gas machines
Locations: AAU, ED, ICU, Maternity, Neonatal Unit (SCBU), Saturn and Ambulatory Care
The test menu at each and every location is the same; the repertoire is given in Table 7.

Location and repertoire on Blood Gas machines

Please note tests on the Point of Care equipment including Blood Gas Machines are not ISO 15189 ACCREDITED at this time

Abbreviation	Full Name
pH	pH
pO2	pOxygen - partial pressure Oxygen
pCO2	pCarbon Dioxide - partial pressure Carbon Dioxide
tHb	total Haemoglobin
sO2	Oxygen Saturation of Haemoglobin
OxyHb	OxyHaemoglobin
MetHb	Met Haemoglobin
COHb	Carboxyhaemoglobin
HHb	reduced Haemoglobin (deoxyHaemoglobin)
HbF	Haemoglobin F (Foetal)
Na	Sodium
K	Potassium
Ca - Ca^{2+}	Ionised Calcium
Cl	Chloride
Glucose	Glucose
Lactate	Lactate

Table 7

13.5 Point of Care Testing (continued)

Blood Gas machines are only approved for analysing blood – not other fluids
Analytical equipment is validated at the factory for CE marking and locally verified for acceptable use but only for those materials that are meant to be analysed. Using Blood Gas machines for any other fluid apart from heparinised whole blood or approved quality control material is outside of the quality arrangements forming part of the governance for the use of the equipment.

Reminder - comparison of POCT and laboratory results
The laboratory would like to remind users that results from Glucose meters or Blood Gas Machines cannot, without consideration, be compared to those in the laboratory as the former uses whole blood and the laboratory uses serum or plasma. It further warns that extremes high level of protein or lipid can lead to Blood Gas machine results that will need special care in interpretation.

Infection Control
Infection control measures that exist across the Trust need to be considered when using POCT equipment.

The A to Z Table – Table 8 follows on the next page

Please note:

Coagulation
The coagulation bottles do need to be fully filled to the line. The test requires a certain ratio of blood volume to factory allocated anti-coagulant to work.

D Dimers
To obtain the D - Dimer test a Wells score must be given along with the clinical details that indicate the request is to rule out PE and DVT

Biochemistry
Samples with significant interference from haemolysis, icterus or lipaemia will not be reported. Please contact the Consultant Chemical Pathologist (during routine hours) via e-mailing (hussam.rostom1@nhs.net) and/or phoning via GWH Switchboard (01793604020)
or the Duty Biochemist at GWH (Out of Hours) by bleep 1147 or Oxford JRH, via Switchboard if there is a clinical need to discuss a suppressed result.

13.6 A-Z Repertoire index

Table 8

Test Name	BHI CODE	SAMPLE CONTAINER TYPE See BD Vacutainer Tube Guide on Page Preceding Table	ALTERNATIVE SAMPLE TYPE	ALTERNATIVE SAMPLE TYPE 2	DISCIPLINE as a guide to ideal Request Form for Enquiries	INDICATIVE TARGET TURNAROUND TIME Number of Days Unless stated	Referral Lab	SPECIAL REQUIREMENTS
17 Hydroxy Progesterone (blood spots)	BS17	Blood Spots			Chem SAS	15 days	BART - St. Bartholomews Hospital	
18 Hydroxy-Cortisol (ambulant random)	MISB	Random Urine in Plain Universal			Chem SAS	10 days	Southampton Biochemistry	Pass Urgently to Chem SAS but if FBC requested and only 1x EDTA send to Haematology first & tell Chem SAS where the sample is.
21 Hydroxlase Antibodies	21HY				Chem SAS	14 Days	SVAR - Wieslab AB	
3 Hydroxybutyrate / Beta Hydroxybutyrate	BOHB	SST serum			Chem SAS	14 days	OUH - JRH Biochemistry	Specimen must be separated and frozen within 2hrs of collection. Ward could use Keytone POC meter for immediate result

5-HIAA (24hr urine)	HI24	24hr Urine collection into Conc. HCL Bottle	24hr Urine collection into Plain Bottle		Chem SAS	14 days	OUH - JRH Biochemistry	Protect from light & take aliquot for urine creatinine and freeze on receipt.
5HIAA (plasma)	PHIA				Chemistry	1 Day	GWH	
5-HIAA (random urine)	HIAC	Random Urine in Plain Universal			Chem SAS	14 days	OUH - JRH Biochemistry	Protect from light & freeze on receipt
7 Dehydrocholesterol	7DHC	Lithium Heparin Plasma			Chem SAS	10 days	GWH	Protect from light
Acetylcholine Receptor Antibodies with or without MUSK antibodies	MYGR	SST serum	Clotted Red Top		SAS	14 days	IOX - Churchill Immunology Oxford	Lithium Heparin and CSF NOT suitable.
ACTH	ACTH	EDTA Plasma			Chem SAS	14 days	OUH - JRH Biochemistry	If FBC requested and only 1x EDTA send to Haematology first. Should be centrifuged and the plasma frozen within 6 hours of venepuncture.
Actin FSL	ACTF	4x Citrate (blue top) & 1x EDTA & 1x SST			Haematology	10 days	NOC Haemophilia	
Activated Protein C Resistance (part of Thrombophilia Screen)	APCR	4x Citrate (blue top) & 1x EDTA & 1x SST			Haematology	10 days	NOC Haemophilia	

Acyl carnitines (blood spots)	BCRN	Blood Spots			Chem SAS	10 days	SCH - Sheffield Childrens Hospital	
Acyl carnitines (plasma)	PCRN	Lithium Heparin Plasma	Clotted Red Top	Fluoride (grey top)	SAS	14 days	SCH - Sheffield Childrens Hospital	EDTA plasma not suitable for analysis.
Acyl carnitines (urine)	MISU	Random Urine in Plain Universal			Chem SAS	10 days	SCH - Sheffield Childrens Hospital	
Adalimumab Drug Level & Antibodies	ADAP	SST serum	Clotted Red Top		Haem SAS	2 weeks	IOX - Churchill Immunology Oxford	Lithium Heparin not suitable. May also be called by the brand names Amgevita - Humira - Hyrimoz - Idacio - Imraldi.
ADAMTS-13 (VWF Protease Pinhibitor)	ADAM	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	1 day	NOC Haemophilia	
Adrenal Cortex Antibodies	ADRA	SST serum	Clotted Red Top		Chem SAS	14 days	IOX - Churchill Immunology Oxford	
Alanine Transaminase (ALT)	ALT	SST serum			Chemistry	1 day	GWH	
Albumin	ALB	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chemistry	1 day	GWH	
Albumin (fluid)	FALB	Universal			Chem SAS	1 day	GWH	
Albumin (urine)	UMA	Random Urine in Plain Universal			Chem SAS	1 day	GWH	

Albumin:Creatinine Ratio (urine)	UMA	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Aldosterone	ALDO	EDTA Plasma			Chem SAS	21 days	JRH Biochemistry	If FBC requested and only 1x EDTA send to Haematology first
Aldosterone / Renin (Charing Cross) (Endocrinology only)	CHAR	EDTA Plasma	Lithium Heparin Plasma		Chem SAS	10 days	Charing Cross	Specified Aldosterone/Renin Ratio requests from Endocrinology & Private Patients only. Always in combination with Aldosterone. Do not collect on ice or separate in a chilled centrifuge.
Alkaline Phosphatase (ALP)	ALP	SST serum			Chemistry	1 day	GWH	
Alkaline Phosphatase Isoenzymes	ALPI	SST serum			Chem SAS	10 days	ABH - Cambridge Addenbrookes Hospital	
Alpha (α) Galactosidase (Fabry) (blood spot)	AGB	Blood Spots			Chem SAS	10 days	GWH	See White Cell Enzymes.
Alpha (α) Galactosidase (Fabry) (edta whole blood)	MISB	EDTA whole blood			Chem SAS	10 days	BRI - Bristol Royal Infirmary	See White Cell Enzymes. If FBC requested and only 1x EDTA send to Haematology first

Alpha 1-Antitrypsin Genotype	AATG	EDTA whole blood			Chem SAS	28 days	WRG - Wessex Regional Genetics Salisbury	If FBC requested and only 1x EDTA send to Haematology first
Alpha 1-Antitrypsin Levels	AAT	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	If AATC is requested please remove it ensuring AAT is requested instead
Alpha 1-Antitrypsin Phenotype	AATP	SST serum	Clotted Red Top		Chem SAS	10 days	IOX - Churchill Immunology Oxford	
Alpha Aminoadipic Semialdehyde	AASA	Random Urine in Plain Universal			SAS	14 Days	GOS - Endocrinology Great Ormond Street Hospital	
Alpha Feto Protein (serum)	AFP	SST serum			Chemistry	1 day	GWH	Not for screening - for monitoring only
Alpha Feto Protein AFP (CSF)	AFPC	CSF			Chem SAS	1 day	CCM - Charing Cross Medical Oncology	
Alpha subunit (Endocrinology) / Alpha Sub Unit TSH	ASU	SST serum	Clotted Red Top		SAS	5 weeks	BNQ - Queen Elizabeth Hospital Birmingham	
Alpha-2 Antiplasmin	A2AP	Citrate (blue top)			Haematology	1 Day	GWH	Rare factor assay. Only request CS and ask Coag BMS to freeze sample & check with Srini
Aluminium (blood)	AL	Navy Blue Top Trace Elements Bottle	Lithium Heparin Plasma		Chem SAS	10 days	Glasgow GOW	Renal Unit patients ONLY. Paediatric Lithium Heparin not acceptable

Amikacin	AMIK	SST serum	Clotted Red Top		Chem SAS	1 Day	GWH	
Amino Acids (CSF)	AACS	CSF			Chem SAS	10 days	JRH Biochemistry	
Amino Acids (plasma)	AAQ	Lithium Heparin Plasma			Chem SAS	10 days	JRH Biochemistry	Put on a separate Lab Number if with other tests.
Amino Acids (urine)	UAA	Random Urine in Plain Universal			Chem SAS	10 days	JRH Biochemistry	
Amiodarone & Desthylamiodarone	AMIO	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	15 days	Royal Hampshire	
Amitriptyline	AMTP	Clotted Red Top			Chem SAS	10 days	CAR - Cardiff Toxicology	
Ammonia	AMM	EDTA Plasma			Chemistry	1 hour	GWH	If FBC requested and only 1x EDTA send to Haematology first
AMPA1/AMPA 2 Antibodies & GABA-B Antibodies (CSF)	CLUT	CSF			Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
AMPA1/AMPA 2 Antibodies & GABA-B Antibodies (serum)	GLUT	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Amylase	AM	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Amylase (24hr urine)	AM24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	

Amylase (fluid)	FAM	Universal			Chem SAS	1 day	GWH	
Amylase (urine)	UAMS	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Amylase Isoenzymes	AISO				Chemistry	1 Day	GWH	
Amyloid A	SAA	SST serum	Clotted Red Top		Chem SAS	21 days	RFH - Royal Free Hospital	
ANCA Anti Neutrophil Cytoplasmic AntibodiesVasculitic Screen includes Myeloperoxidase (MPO) / PR3 antibodies / ANCA Pattern & Titre	ANCA	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Androstenedione	ANDR	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	11 days	JRH Biochemistry	
Angiotensin Converting Enzyme ACE (CSF)	CACE	CSF			Chem SAS	25 Day	UCLH Neurorology	
Angiotensin Converting Enzyme ACE (serum)	ACE	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 days	JRH Biochemistry	
Anti C1Q Antibody	C1QA	SST serum			Haem SAS	10 days	Sheffield PRU	
Anti CCP Cyclic Citrullinated Peptide antibodies	CCP	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	If request is not from Rheumatology still book in as CCP but refer to a Senior
Anti Histone antibodies	HIST	SST serum	Clotted Red Top		Haem SAS	15 days	Southmead Immunology	
Anti MOG Antibodies (Myelin Oligodrendrocyte Antibodies) (CSF)	MOGC	CSF			Haem SAS	18 days	IOX - Churchill Immunology Oxford	

Anti Mullerian Hormone (AMH)	AMH	SST serum	Clotted Red Top		Chem SAS	5 days	TDL - TDL	
Anti Nuclear Antibody (Hep-2) / Connective Tissue ANA (CTD) Screen	HEP2	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Anti Phospholipid Syndrome Screen (includes Cardiolipin antibodies IgG IgM and Beta-2 Glycoprotein B2GP IgG IgM)	APLS	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	If part of Lupus/Thrombophilia request pass to Haematology with citrate samples. Otherwise pass to Haem SAS.
Anti Thrombin III Activity (AT3 / ATIII / APCC)	ATA	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	25 days	NOC Haemophilia	
Anti Thyroglobulin Antibodies / Thyroglobulin Antibodies	TGAB	SST serum	Clotted Red Top		Chem SAS	5 days	Sheffield PRU	
Anti XA	LMWH	2x Citrate (blue top)			Haematology	1 day	GWH	
AP50 & CH50 Complement Pathway	CFIN	SST serum	Clotted Red Top		Chem SAS	21 days	IOX - Churchill Immunology Oxford	
Apixaban	APIX	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	10 Days	JRH Coagulation	
Apolipoprotein A1	APA1				Chemistry	1 Day	GWH	
Apolipoprotein B (APO B)	APOB	SST serum	Clotted Red Top	Paediatric Lithium Heparin	Chem SAS	1 day	JRH Biochemistry	
APTT (APT ratio)	APTR	Citrate (blue top)			Haematology	1 day	GWH	

Aquaporin 4 Antibodies Fixed Cell / Neuromyelitis Optica Antibodies NMO (CSF)	AQCS	CSF			Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Aquaporin Antibodies Fixed Cell / Neuromyelitis Optica Antibodies NMO (serum)	AQUS	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Aquaporin IV Antibodies Live Cell / Neuromyelitis Optica Antibodies NMO (serum)	LAQ4	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Arsenic (Blood)	BARS	Lithium Heparin Plasma	EDTA whole blood		Chem SAS	10 days	TEC - Cardiff Trace Elements	
Arsenic (urine)	UARS	Random Urine in Plain or Boric Acid Universal			Chem SAS	10 days	TEC - Cardiff Trace Elements	
Arylsulphatase A (ASA)	MISB	EDTA whole blood			Chem SAS	28 days	BRI - Bristol Royal Infirmary	If FBC requested and only 1x EDTA send to Haematology first
Aspartate Aminotransferase (AST)	AST	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Aspergillus specific IgG	GASP	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Avian IgG Precipitans (pigeon & budgie)	BFL	SST serum	Clotted Red Top		Chem SAS	14 Days	CUMBN - Cumbria Infirmary	
Azathioprine Metabolites / 6 thioguanine necleotide / 6 methylmercaptopurine Thiopurine Metabolite	TGN	EDTA whole blood			Chem SAS	6 days	CHB - Birmingham City Hospital	If FBC requested and only 1x EDTA send to Haematology first

B2 (Beta 2) Microblobulin level	B2M	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Basal Ganglia Antibodies	BGAA	SST serum	Clotted Red Top		Haem SAS	14 days	UCLH Neurorology	
Basal LHRH	LHRH				Chemistry	1 Day	GWH	
BCR-ABL PCR	BCRA	EDTA whole blood			Chem SAS	25 days	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
Bence Jones Electrophoresis (urine)	UREP	Random Urine in Plain Universal			Chem SAS	10 days	IOX - Churchill Immunology Oxford	
Bence Jones Protein Electrophoresis (quantitative) (24hr urine)	24UR	24hr Urine collection into Plain Bottle			Chem SAS	10 days	IOX - Churchill Immunology Oxford	
Beta Trace Protein / Beta 2 Transferrin	FBTP	Nasal/Ear Discharge in Universal + SST serum	Universal & Clotted Red Top		Chem SAS	2 hours if urgent or 2 days	UCLH Neurorology	
Beta-Glucocerebrosidase (Gaucher's)	CHIT	EDTA whole blood			Chem SAS	5 weeks	BRI - Bristol Royal Infirmary	See White Cell Enzymes.
BHCG (CSF)	HCGC	CSF			Chem SAS	1 day	CCM - Charing Cross Medical Oncology	

BHCG (fluid)	FHCG	Universal			Chemistry	1 day	GWH	
BHCG (serum)	HCG	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Bicarbonate	BIC	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Bile Acids	BILE	SST serum	Clotted Red Top		Chemistry	5 days	GWH	
Bile Pigments (urine)	GBC				Chem SAS	1 Day	GWH	
Biopterin	BIOP	Blood Spots			Chem SAS	10 days	BCH - Birmingham Childrens Hospital	
Biotinidase	BIOT	Lithium Heparin Plasma			Chem SAS	14 days	SCH - Sheffield Childrens Hospital	Aliquot serum into Sarstedt secondary bottle and freeze at -20°C (see Chem Recepton Bench). Write time frozen on form
Blood Film	FILM	EDTA whole blood			Haematology	6 days	GWH	
BNP B-type natriuretic peptide	BNP	EDTA whole blood			Chemistry	1 day	GWH	Before passing to Chemistry please ensure any FBC request is done first if there is only one EDTA sample
Bone Marrow Aspirate slides	BM	Bone Marrow slides			Haematology	1 day	GWH	SP50 for staining

C1-Esterase Inhibitor Level & Function Investigations	C1ES	SST serum and EDTA Plasma			Chem SAS	21 days	IOX - Churchill Immunology Oxford	Put on a separate Lab Number if with other tests
C2	CFIN	SST serum	Clotted Red Top		Chem SAS	21 days	IOX - Churchill Immunology Oxford	
C3 & C4 Complement	C3C4	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
C3 Nephritic Factor	C3NF	SST serum	Clotted Red Top		Chem SAS	10 days	Sheffield PRU	
CA19-9 Fluid	F199	Universal			Chem SAS	14 Days	Charing Cross	
Cadmium	CAD	EDTA whole blood			Chem SAS	10 days	TEC - Cardiff Trace Elements	Needs separate barcode if with other tests for Southampton. Also need empty EDTA tube. If FBC requested and only 1x EDTA send to Haematology first.
Caeruloplasmin	CAER	SST serum			Chem SAS	7 days	CUH - Cardiff Trace Elements (Cardiff University Hospital)	SST only - cannot accept Clotted red top.
Caffeine	CAFF	Lithium Heparin Plasma	SST serum	Clotted Red Top	Chem SAS	10 days	CHB - Birmingham City Hospital	
Calcitonin	CALC	Lithium Heparin Plasma			Chem SAS	16 days	JRH Biochemistry	Pass Urgently ASAP to SAS Bench

Calcium (24hr urine)	CA24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Calcium (fluid)	FCA	Universal			Chemistry	1 day	GWH	
Calcium Adjusted Calcium & Albumin (ALB) (serum)	CA	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Calcium Group Bone Profile - includes Calcium & Adjusted Calcium (CA) Albumin	BONE	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Calcium Random (urine)	UCA	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Calcium:Creatinine Ratio (24hr urine)	UCAC	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Calcium:Creatinine Ratio (Spot) (urine)	UCAC	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Calreticulin Mutation / MPL Mutation	Please refer to a Senior for test code	EDTA whole blood			Haem SAS	4 weeks after JAK2 result	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
Cannabinoids (urine)	TRIA	Random Urine in			Chem SAS	1 day	GWH	

		Plain Universal						
Carbamazepine	CARB	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Carbohydrate antigen 125 / CA125	C125	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Carbohydrate antigen 15-3 / CA153	C153	SST serum	Clotted Red Top		Chem SAS	5 days	JRH Biochemistry	
Carbohydrate antigen 19-9 / CA199	C199	SST serum	Clotted Red Top		Chem SAS	137 days	JRH Biochemistry	
Carbohydrate Deficient Transferrin	CDT				Chemistry	1 Day	GWH	
Carboxyhaemoglobin	OCHB				Chemistry	1 Day	GWH	
Carcinoembryonic antigen CEA (fluid)	FCEA	Universal			Chem SAS	14 Days	Charing Cross	
Carinoembryonic antigen CEA (serum)	CEA	SST serum			Chem SAS	1 day	Charing Cross	
Carnitine (Free/Total)	PCRN	Lithium Heparin Plasma	Clotted Red Top	Fluoride (grey top)	Chem SAS	14 days	SCH - Sheffield Childrens Hospital	EDTA plasma not suitable for analysis.
CASPR2 Antibodies (CSF)	LGCS	CSF			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Catecholamines (24hr urine)	Please refer to a Senior for test code	24hr Urine collection into Conc. HCL Bottle			Chem SAS	10 days	GWH	See Metanephrines
CD18	Please refer to a	EDTA whole blood			Haem SAS	1 day	Southmead Immunology	

	Senior for test code							
CD19	Please refer to a Senior for test code	EDTA whole blood			Haem SAS	1 day	Southmead Immunology	
CD20	Please refer to a Senior for test code	EDTA whole blood			Haem SAS	1 day	Southmead Immunology	
CD4 Count (includes CD4 CD8)	CD4	EDTA whole blood			Haem SAS	3 days	IOX - Churchill Immunology Oxford	
CEA (CSF)	CEAC	CSF			Chem SAS	1 day	CCM - Charing Cross Medical Oncology	
CEA (serum)	CEA	SST serum	Clotted Red Top		Chem SAS	1 day	GWH	
Cell Markers	BMK	2x EDTA whole blood			Haem SAS	10 days	Birmingham Imm	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge

CH50 Classical Haemolytic Pathway	CFIN	SST serum	Clotted Red Top		Chem SAS	21 days	IOX - Churchill Immunology Oxford	
Chitotriosidase & B-Galactosidase (Gangliosidosis)	CHIT	EDTA whole blood			Chem SAS	10 days	BRI - Bristol Royal Infirmary	See White Cell Enzymes.
Chloride	CL	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Chloride (24hr urine)	CL24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Chloride (drain)	OCL	Universal			Chem SAS	1 day	GWH	
Chloride (random urine)	UCL	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Cholestanol	CHN				Chemistry	1 Day	GWH	Rare test - has to be approved by Dr Rostom with special circumstances. Change request to CH.
Cholesterol - includes Cholestrol (CHOL) / HDL Cholestrol (CHDL) / Cholestrol-HDL Ratio	CH	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Cholinesterase / Dibucaine No.	CHOA	EDTA whole blood	SST serum	Clotted Red Top	Chem SAS	10 days	Southmead Biochemistry	If FBC requested and only 1x EDTA send to Haematology first
Chromium	CRCO	Navy Blue Top Trace			Chem SAS	10 days	TEC - Cardiff Trace Elements	CRCO requests both Cobalt whole blood

		Elements Bottle						and Chromium whole blood tests.
Chromogranin A	CHGA	2x EDTA & 1x SST			Chem SAS	10 days	Charing Cross	Pass Urgently to Chem SAS
Chromogranin B	CHGB	2x EDTA & 1x SST			Chem SAS	10 days	Charing Cross	Pass Urgently to Chem SAS
Ciclosporin (also spelt Cyclosporin) (abbreviations CYA / CSA) (Renal Unit)	CICL	EDTA whole blood			Chem SAS	2 days	JRH Biochemistry	If FBC requested and only 1x EDTA send to Haematology first
Citrate (24hr urine)	24CT	24hr Urine collection into Conc. HCL Bottle			Chem SAS	5 days	UCL - Biochemistry Department UCLH	
Citrate (random urine)	RUCT	Random Urine in Plain Universal			Chem SAS	5 days	UCL - Biochemistry Department UCLH	
CK Isoenzymes	MCK	SST serum	Clotted Red Top		Chem SAS	14 Days	RFH - Royal Free Hospital	
Clobazam	CLOB				Chemistry	7 Day	GWH	
Clonazepam	CLON				Chemistry	3 Day	GWH	
Clotting Screen / Studies / Coagulation Screen	CS	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	1 day	GWH	
Clozapine	CLOZ	EDTA whole blood	SST serum		SAS	3 days	BTL - Birmingham Toxicology	If EDTA supplied - do not spin. If SST supplied please centrifuge.
Cobalt	CRCO	Navy Blue Top Trace			Chem SAS	10 days	TEC - Cardiff Trace Elements	CRCO requests both Cobalt whole blood

		Elements Bottle						and Chromium whole blood tests.
Coeliac Screen / Tissue Transglutaminase IgA & IgG / Endomysial Antibodies IgA	COEL	SST serum	Clotted Red Top		Haem SAS	4-7 days	IOX - Churchill Immunology Oxford	
Complement Cascade C1 to C9	CFIN	SST serum	Clotted Red Top		Chem SAS	21 days	IOX - Churchill Immunology Oxford	
Complement Pathways Function Investigations	CFIN	SST serum	Clotted Red Top		Chem SAS	21 days	IOX - Churchill Immunology Oxford	
Conjugated Bilirubin / Direct Bilirubin	CBIL	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Copeptin / CT-ProAVP	COPE	SST serum	Lithium Heparin Plasma	Clotted Red Top	Chem SAS	28 days	RVI - Royal Victoria Infirmary Newcastle	
Copper (24hr urine)	24CU	24hr Urine collection into Plain Bottle			Chem SAS	10 days	TEC - Cardiff Trace Elements	
Copper (Serum)	CU	SST serum	Navy Blue Top Trace Elements Bottle		Chem SAS	4 days	TEC - Cardiff Trace Elements	SST or Navy top sample only.
Cortisol	CORT	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Cortisol (24 hour urine)	UFC	24hr Urine collection into Plain Bottle			Chem SAS	18 days	JRH Biochemistry	Spot urine sample for Paediatrics only. BEFORE sending take an aliquot into a Luckhams tube to

								run inhouse for urine creatinine.
Cortisol (random urine)	GBC				Chem SAS	1 Day	GWH	Add comment - Not available on random urine samples - only measured on 24-hour urine samples.
Cortisol (Salivary)	SCOR	Saliva			Chem SAS	18 days	Southampton Immunology	
Cotinine (urine)	COTU	Random Urine in Plain Universal			Chem SAS	1 Day	GWH	
Covid Antibody Test	Please refer to a Senior for test code	SST serum	Clotted Red Top		Chem SAS	3 to 5 days	JRH Biochemistry	Technically a Microbiology test but Chem SAS team book it in and send. Separate sample from other tests. Must refer to Micro for results
C-Peptide	CPEP	SST serum & Fluoride	Paediatric Red Top & Fluoride		Chem SAS	10 days	JRH Biochemistry	Must be spun within 12 hours of venepuncture
C-Peptide / Creatinine Ratio (urine)	UCP	Random Urine in Boric Acid Universal			Chem SAS	1 day	ECC - Exeter Clinical Chemistry	
C-Reactive Protein (CRP)	CRP	SST serum	Clotted Red Top		Chemistry	1 day	GWH	

Creatine Kinase	CK	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Creatinine	CREA	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Creatinine (24hr urine)	CR24	24hr Urine collection into Conc. HCL Bottle	24hr Urine collection into Plain Bottle		Chem SAS	1 day	GWH	Can be in a Plain 24hr bottle if requested alongside Oxalate. Can share bottle for Total Protein.
Creatinine (fluid)	FCRE	Universal			Chem SAS	1 day	GWH	
Creatinine (PD peritoneal dialysis fluid)	CRDF	Tan colour top			Chem SAS	1 day	GWH	
Creatinine (urine)	UCRE	Random Urine in Boric Acid Universal			Chem SAS	1 day	GWH	Can be in a Plain 24hr bottle if requested alongside Oxalate. Can share bottle for Total Protein.
Creatinine Clearance (24hr urine)	CC	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Cryoproteins (includes Cryoglobulins)	CRYG	Clotted Red Top & EDTA			Chem SAS	10 days	IOX - Churchill Immunology Oxford	Keep at body temperature & transfer immediately to 37°C water bath. Needs separate barcode if with other tests for Southampton

CSF Amyloid Beta Ratio	CBR	Plain CSF			SAS	10 Days	Neuroimmunology CSF Laboratory UCLH (NNH)	
CSF Neurofilament Light Chain	CNL	Plain CSF			SAS	15 Days	Neuroimmunology CSF Laboratory UCLH (NNH)	
CSF Phospho-Tau	CPT	Plain CSF			SAS	10 Days	Neuroimmunology CSF Laboratory UCLH (NNH)	
CSF Total Tau	CTT	Plain CSF			SAS	10 Days	Neuroimmunology CSF Laboratory UCLH (NNH)	
Cystatin C	CYSC	SST serum	Paediatric Lithium Heparin orange top		Chem SAS	1 day	JRH Biochemistry	Specimen must be separated and frozen within 24 hours of collection.
Cystine (24hr urine)	UAA	24hr Urine collection into Plain Bottle	Random Urine in Plain Universal		Chem SAS	14 days	OUH - JRH Biochemistry	
Cytogenetics Bone Marrow	OTHH	Bone Marrow in cytogenetic medium			Haem SAS	10 days	WRG - Wessex Regional Genetics Salisbury	
Cytospin (CSF)	CSFC	CSF			Haematology	1 day	GWH	To Microbiology first. Haematology Consultant requests only. Do NOT accept or test any samples from patients suspected of

								suffering from Creutzfeldt-Jakob Disease (CJD)
D-Dimer	DD	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	1 day	GWH	Not available for GPs - only within hospital. Must have Wells Score (not visible on ICE requests but they will have had to type it in)
Desethylamiodarone	AMIO	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 days	Royal Hampshire	
Dexamethasone	DEXA	SST serum			Chem SAS	14 Days	CBW - Wythenshawe Clinical Biochemistry	
DHEA Sulphate	DHES	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 days	JRH Biochemistry	
Digoxin	DIG	SST serum	Clotted Red Top		Chemistry	1 day	GWH	At least 6 hours post dose
Dihydropyrimidine dehydrogenase DPD-5FU toxicity	DPD	EDTA whole blood			Chem SAS	10 days	PUR - Purine Research Laboratory St Thomas	If FBC requested and only 1x EDTA send to Haematology first
Dihydrotestosterone	5ADT	SST serum	Clotted Red Top		Chem SAS	10 days	BART - St. Bartholomews Hospital	

Direct Coombs Test (DAT / DAGT / DCT)		EDTA whole blood			Blood Transfusion	1 Day	GWH	This test is now only accepted by Blood Transfusion if on their form. It is not accepted if on a normal red form - please reject the sample and pass it with a copy of the form to BT
Diuretic Screen (urine)	DIUS	Random Urine in Plain Universal			Chem SAS	14 days	BTL - Birmingham Toxicology	
Downs Screening (Triple test / Quad test) Maternal serum (Kettering)	Please refer to a Senior for test code	SST serum	Clotted Red Top		Chem SAS	7 days	KETTERING - Kettering General Hospital	
DPPX Antibody (CSF)	DPPC	CSF			SAS	14 days	IOX - Churchill Immunology Oxford	
DPPX Antibody (Serum)	DPPX	SST serum			SAS	14 days	IOX - Churchill Immunology Oxford	
Drug Screen / Drugs of Abuse / Toxicology (Urine)	TRIA	Random Urine in Plain Universal			Chemistry Manual	1 day	GWH	Test rarely indicated. Emergency drugs of abuse for psychosis or unconsciousness in ED for unknown

								reasons. All other situations test performed routinely
dsDNA Antibodies	DNA	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	Only for known SLE patients - not a first line test
EBV / CMV PCR plus Tacrolimus	Please refer to a Senior for test code	EDTA whole blood & Citrate (blue top)			Haem SAS	14 Days	UCLH Haematology	
Electrolytes (urine)	UEL	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Electrolytes Sodium Na & Potassium K / TPN (24hr urine)	NA24 & K24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Electrophoresis Hb (haemoglobin electrophoresis)(haemoglobinopathy) Thalassaemia - AnteNatal only	XHEL	EDTA whole blood			Haematology	3 days	GWH	
Electrophoresis Hb (haemoglobin electrophoresis)(haemoglobinopathy) Thalassaemia - Father Testing only	HBO	EDTA whole blood			Haematology	3 days	GWH	
Electrophoresis Hb (haemoglobin electrophoresis)(haemoglobinopathy) Thalassaemia - non AnteNatal	HBO	EDTA whole blood			Haematology	3 days	GWH	
Enhanced Liver Fibrosis Score (ELF)	ELF	SST serum			Chem SAS	1 Day	GWH	Not available - advise clinicians to use the

								FIB-4 calculation instead (using online calculator)
Erythropoetin	EPO	SST serum	Clotted Red Top		Haem SAS	6 days	JRH Biochemistry	
ESR erythrocyte sedimentation rate	ESR	EDTA whole blood			Haematology	1 day	GWH	
Ethanol Alcohol (plasma)	ETH	Fluoride (grey top)			Chemistry	2 hours if urgent or 2 days	GWH	
Ethanol Alcohol (serum)	ETMG	SST serum			Chemistry	2 hours if urgent or 2 days	GWH	
Ethanol Alcohol (urine)	UETH	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Ethosuximide	ETHO	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	6 days	Southampton Biochemistry	
Ethylene Glycol	ETHG	Fluoride (grey top)	Lithium Heparin Plasma	EDTA Plasma	Chem SAS	1 day	CHB - Birmingham City Hospital	Cannot use serum from SST. Could use clotted Red Top. If out of hours pass to Chemistry BMS to send to get approval to send to Birmingham urgently

Exon 12	EX12	EDTA whole blood			Haem SAS	4 weeks after JAK2 result	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
Extended Autoimmune Liver antibodies (Immunoblot)	LIVB	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Extended T Cell Panel (SCID)	OTHR	EDTA whole blood			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	Clinician must ring Oxford Immunology before collecting any samples for this test
Extended Urine Drugs of Abuse Toxicology Screening	UDS	Random Urine in Plain Universal			Chem SAS	1 day	CHB - Birmingham City Hospital	
Extractable Nuclear Antigen Ab Profile	ENAP	SST serum			SAS	5 days	IOX - Churchill Immunology Oxford	
Extractable Nuclear Antigen Ab Screen	ENA	SST serum			SAS	5 days	IOX - Churchill Immunology Oxford	
Factor 8 Binding Assay	F8BA	SST serum				14 Days		
Factor H (Complement)	CFIN	SST serum	Clotted Red Top		Chem SAS	21 days	IOX - Churchill Immunology Oxford	
Factor II	FA2	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
Factor IX Assay	FA9	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	

Factor V	FA5	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
Factor V Leiden	FVL	EDTA whole blood			Haematology	10 days	NOC Haemophilia	
Factor VIII	FA7	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
Factor VIII Assay	FA8	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
Factor X	FA10	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
Factor XI	FA11	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
Factor XII	FA12	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
Factor XIII	FA13	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
Faecal Calprotectin	CALP	Faeces			Virology	1 Day	GWH	Microbiology test
Faecal Elastase / Fat Globules	FCE	Faeces			Chem SAS	10 days	JRH Biochemistry	
Faecal Immunochemical Test (FIT) / Faecal Occult Blood	FIT	Faeces			Chem SAS	14 days	JRH Biochemistry	
Faecal Porphyrin	FPOR	Faeces			Chem SAS	14 days	Southampton Biochemistry	Must be light protected. Not advised for screening
Faecal Reducing Substances	FRS	Faeces			Chem SAS	14 Days	ALDERHEY - Biochemistry Alder Hey Hospital Liverpool	

Ferritin	FER	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chemistry	1 day	GWH	
Ferritin / Vitamin B12 & Folate	BFRF	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chemistry	1 day	GWH	
FIB-4 includes AST ALT	FIB4	SST serum	Clotted Red Top	Paediatric Lithium Heparin	Chemistry	1 day	GWH	Also request: LFT UE FBC (if EDTA sample received)
Fibrinogen	FIB	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	1 day	GWH	
Flecainide	FLEC	EDTA Plasma			Chem SAS	11 days	CAR - Cardiff Toxicology	Do not use serum from SST. If FBC requested and only 1x EDTA send to Haematology first
Flow Cytometry	OTHH	EDTA whole blood			Haem SAS	10 days	JRH Haematology	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
FLT3-D835_TKD	TKD	EDTA whole blood			Haem SAS	25 days	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge

FLT3-ITD	FLT3	EDTA whole blood			Haem SAS	25 days	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
Folate	BF	SST serum	Clotted Red Top		Chemistry	1 day	GWH	Also known as dementia screen or folate / haematinics
Follicle-Stimulating Hormone (FSH)	FSH	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Fondaparinux	FOND	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	10 Days	JRH Coagulation	
Free Androgen Index	FAI	SST serum	Clotted Red Top		Chemistry	14 Days		
Free Cortisol (urine)	GBC	Random Urine in Plain Universal			Chem SAS	1 Day	GWH	Add comment - Not available on random urine samples - only measured on 24-hour urine samples.
Free Fatty Acids	FFA	SST serum			Chem SAS	10 days	JRH Biochemistry	
Free Foetal DNA Testing (ffDNA)	Please refer to a Senior for test code	EDTA whole blood			Blood Transfusion	7 days	NHS BT	Keep sample at room temperature.
Free FT3	FT3	SST serum	Paediatric Lithium Heparin	Clotted Red Top	Chemistry	1 day	GWH	If both FT3 and FT4 are required please request both

								separately - there is no combined code
Free FT4	FT4	SST serum	Paediatric Lithium Heparin	Clotted Red Top	Chemistry	1 day	GWH	If both FT3 and FT4 are required please request both separately - there is no combined code
Free Protein S Antigen	FPS	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	10 days	NOC Haemophilia	
Free Valproate+C561	FVAL	SST serum			Chemistry	1 Day	GWH	
Fructosamine	FRUC	SST serum	Clotted Red Top	EDTA Plasma	Chem SAS	10 days	CHB - Birmingham City Hospital	
Full Blood Count	FBC	EDTA whole blood			Haematology	1 day	GWH	
Full Blood Count - Clozapine	FBC	EDTA whole blood			Haematology	1 day	GWH	Please add Clozapine to the clinical details
G6PA Assay / Screen (Glucose 6 Phosphate Dehydrogenase)	G6PD	EDTA whole blood			Haem SAS	15 days	Southampton Immunology	
GA1 Antibody	GA1	SST serum	Clotted Red Top		Haem SAS	28 days	UCLH Neurorology	
GAD Antibodies Glutamic Acid Decarboxylase (serum) Diabetes	GAD	SST serum	Clotted Red Top		Haem SAS	18 days	IOX - Churchill Immunology Oxford	Also request ZNT8 and IA2. Lithium Heparin not suitable
GAD antibody Glutamic Acid Decarboxylase (CSF) Diabetes	GADC	CSF			Haem SAS	10 Day	IOX - Churchill Immunology Oxford	

Galactitol	Please refer to a Senior for test code	Random Urine in Plain Universal			Chem SAS	28 days	Southmead Genetics	
Galactose-1-Phosphate	G1P	Lithium Heparin whole blood			Chem SAS	20 days	Southmead Genetics	
Galactose-1-Phosphate Uridyl Transferase (G1PUT)	GPUT	Lithium Heparin whole blood			Chem SAS	10 days	Southmead Genetics	
Gamma-Glutamyl Transferase (GGT)	GGT	SST serum	Paediatric Lithium Heparin	Clotted Red Top	Chemistry	1 day	GWH	
GAMT (Guanidino-acetate & Creatine) / Creatine Deficiency Syndrome (Serum)	PCRT	Lithium Heparin Plasma			Chem SAS	3 weeks	ABH - Cambridge Addenbrookes Hospital	Take sample sample and form to SAS bench.
GAMT (Guanidino-acetate & Creatine)(urine)	UCRT	Random Urine in Plain Universal			Chem SAS	3 weeks	ABH - Cambridge Addenbrookes Hospital	Take urine sample and form to SAS bench ASAP.
Ganglionic ACH Receptor Antibody (GA3)	A3GA	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Ganglioside (GM1) antibodies (serum)	GANG	SST serum	Clotted Red Top		Haem SAS	10 days	QEG - Queen Elizabeth Hospital Glasgow	

Ganglioside (GQ1B) antibodies (serum)	GANG	SST serum	Clotted Red Top		Haem SAS	10 days	QEG - Queen Elizabeth Hospital Glasgow	
Gastrin	GAST	3x EDTA whole blood			Chem SAS	10 days	Southampton Biochemistry	Should arrive on ice. Pass Urgently to Chem SAS team. Can be sole request or part of Gut Hormone Profile. See Gut Hormone Profile notes.
GD1A & GD1B Antibody	GANG	SST serum	Clotted Red Top		Haem SAS	10 days	QEG - Queen Elizabeth Hospital Glasgow	
GD2 & 3 Antibody	GANTG	SST serum	Clotted Red Top		Haem SAS	28 days	UCLH Neurorology	
Gentamicin	GENT	SST serum	Paediatric Lithium Heparin	Clotted Red Top	Chemistry	1 day	GWH	
GFR-EPI (calculated test automatically added when U&Es are requested)	GFR	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chemistry	1 day	GWH	
Glomerular Basement Membrane antibody	GBM	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Glucagon	GLC	2x EDTA & 1x SST			Chem SAS	10 days	Charing Cross	Pass Urgently to Chem SAS team. See Gut Hormone Profile. 12hr fasting. Receive in lab within 15mins of sampling.

Glucose (CSF)	CG	CSF in Fluoride bottle (grey top)	CSF		Chem SAS	1 day	GWH	Aliquot sample into hanging cup/Luckhams & place in analyser rack on Automate bench
Glucose (fluid)	FG	Universal			Chem SAS	1 day	GWH	
Glucose (fluoride) - GPs	GLX	Fluoride (grey top)			Chemistry	1 day	GWH	If Fasting is indicated - use GLXF
Glucose (PD peritoneal dialysis fluid)	GDF	Tan colour top			Chem SAS	1 day	GWH	
Glucose (serum) Inpatients only	GLU	SST serum			Chemistry	1 day	GWH	For grey top samples from GPs use GLX
Glucose Fasting (fluoride) - GPs	GLXF	Fluoride (grey top)			Chemistry	1 day	GWH	If Fasting is NOT indicated - use GLX
Glucose Tolerance Test	GTT	Fluoride (grey top)			Chemistry	1 day	GWH	2x grey top samples pre & post glucose drink. Use 2x barcode numbers & note times given on form & in clinical details
Glycine Receptor Antibodies (CSF)	GLCA	CSF			Haem SAS	19 days	IOX - Churchill Immunology Oxford	
Glycine Receptor Antibodies (serum)	GLYA	SST serum	Clotted Red Top		Haem SAS	18 days	IOX - Churchill Immunology Oxford	
GM2 Antibody	M2G	SST serum	Clotted Red Top		Haem SAS	28 days	UCLH Neurorology	

GM3 Antibody	Please refer to a Senior for test code	SST serum	Clotted Red Top		Haem SAS	28 days	UCLH Neurorology	
Growth Hormone	GH	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 days	JRH Biochemistry	
GT1a Antibody	Please refer to a Senior for test code	SST serum	Clotted Red Top		Haem SAS	28 days	UCLH Neurorology	
GT1b Antibody	Please refer to a Senior for test code	SST serum	Clotted Red Top		Haem SAS	28 days	UCLH Neurorology	
Gut Hormone Profile (Chromogranin A / B)	GUTH	3x EDTA & SST			Chem SAS	10 days	Charing Cross	Patient must be fasting for ideally 12hrs (min 10 hours). EDTAs should arrive on ice. Need SST for Urea & Creatinine
Haemochromastosis HFE Genotype	HFE	EDTA whole blood			Haem SAS	6 weeks	CHUR - Oxford Regional Genetics Laboratory	

Haemoglobin (urine)	GBC	Random Urine in Plain Universal			Chem SAS	1 Day	GWH	
Haemophilus Influenza B IgG Antibody	HIB	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Haptoglobin	HAPT	SST serum	Clotted Red Top		Haem SAS	10 days	JRH Biochemistry	
HbA1c Glycated Haemoglobin	A1C	EDTA whole blood			Chemistry Manual	2 days	GWH	If FBC requested and only 1x EDTA send to Haematology first
Heinz Bodies	HENZ	EDTA whole blood				1 Day	GWH	
Hepcidin	HPCD	SST serum			Chemistry	1 Day	GWH	
Histamine (urine)	UMH	Random Urine in Plain Universal			Chem SAS	14 days	Sheffield PRU	
HLA DQ2/DQ8	DQ2	2x EDTA whole blood	2x Pink Top EDTA whole blood		Haem SAS	14 days	Southampton Immunology	
HMG Co A Reductase Antibodies	HMG	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Homocysteine (plasma)	HOM	EDTA Plasma			Chem SAS	10 days	CUH - Cardiff University Hospital	Pass Urgently to Chem SAS but if FBC requested and only 1x EDTA send to Haematology first &

								tell Chem SAS where the sample is
Homocystine (urine)	GBC	Random Urine in Plain Universal			Chem SAS	1 Day	GWH	Not available on random samples
HS Cardiac Troponin I	TNI	SST serum			Chemistry	1 day	GWH	HSTF for females HSTM for males - range difference for gender
Hydroxyproline (24hr urine)	UHYP	24hr Urine collection into Plain Bottle			Chem SAS	10 days	Southampton Biochemistry	
IA2 Islet Antigen Antibodies Tyrosine Phosphatase-related	IA2	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	Also request GAD and ZNT8. Lithium Heparin not suitable
IgA	MYES	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	18 days	IOX - Churchill Immunology Oxford	
IgD	IGD	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	18 days	Sheffield PRU	
IgD/E Serum Immunofixation	IFIX				Chemistry	1 Day	GWH	
IGF-1 Somatomedin	IGF1	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	6 days	JRH Biochemistry	
IGF-BP3 Binding Protein 3	IBP3	SST serum	Clotted Red Top		Chem SAS	10 days	Kings College	

IgLON 5 Antibodies (CSF)	CLO	CSF			Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
IgLON 5 Antibodies (serum)	LON	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Immunoglobulin IgG Subclasses - IgG 1-4	GSUB	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 Day	IOX - Churchill Immunology Oxford	Use for ?IgG subclass immunodeficiency
Immunoglobulins (IMM) - includes IgG IgA IgM & Serum Electrophoresis EPP - IOGI	MYES	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	Request MYES instead of PQQ. If known Myeloma patient WPE will automatically change the MYES code to MYEK.
Immunoglobulins Subclass IgG4 level	IGG4	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 Day	IOX - Churchill Immunology Oxford	Use if only IgG4 is required (IgG4 related disease)
Indirect IMF Immunofluorescence	Not to input	SST serum			SAS	N/a	GWH	Pass sample & form straight to SAS bench - no need to input or spin
Infectious Mononucleosis / Glandular Fever / Monospot / Paul Bunnell Test (includes FBC & FILM group code)	IM	EDTA whole blood			Haematology	1 day	GWH	
Infliximab Drug Levels & Antibodies (Ramicade Inflectra & Remsima)	IFXL	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	Lithium Heparin not suitable
Inhibin A	INHA	SST serum	Clotted Red Top		Chem SAS	10 days	Charing Cross	

Inhibin B	INHB	SST serum	Clotted Red Top		Chem SAS	10 days	Charing Cross	
INR - Warfarin (yellow books / blue slips)	INRD	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	1 day	GWH	
INR International Normalised Ratio	INR	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	1 day	GWH	Clinical details must specify patient is on Warfarin or if the patient has a Warfarin flag (check F6) otherwise request as PT
Insulin	INS	SST serum	Clotted Red Top		Chem SAS	10 days	JRH Biochemistry	Must be spun within 12 hours of venepuncture. For paediatric hypoglycaemia screens received out of hours send to the referral lab ASAP. There is no need to seek approval from a clinician - please send the samples ASAP
Insulin Antibodies	INSA	SST serum	Clotted Red Top		Haem SAS	10 days	Sheffield PRU	
Insulin DNA	Please refer to a Senior	EDTA whole blood			Chem SAS	10 days	ABH - Cambridge Addenbrookes Hospital	Bloods taken after overnight fasting brought to the lab on ice stored at 4°C

	for test code							
Insulin-Like Growth Factor II / IGF-II	IGF2	Clotted Red Top			SAS	14 Day	RSC - Royal Surrey County Hospital Guildford	
Internal Comment Code for Biochemistry	INTB				Chemistry	1 Day	GWH	Anything written in this code will stay internal to the laboratory & will not go across to Careflow/ICE
Internal Comment Code for Haematology	INTH				Chemistry	1 Day	GWH	Anything written in this code will stay internal to the laboratory & will not go across to Careflow/ICE
Intrinsic Factor Antibodies	IFA	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Iohexol	IHX	SST serum			Chemistry	1 Day	GWH	
Iron (serum)	FE	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Iron / Transferrin / Transferrin Saturation	IRON	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 days	JRH Biochemistry	Please change TRFI to IRON
Iron Stain (bone marrow slide)	BFE	Bone Marrow slides			Haematology	1 Day	GWH	
IRT Immune Reactive Trypsin	ITI	Blood Spots			Chem SAS	7 days	Southampton Biochemistry	

JAK2	JAK2	EDTA whole blood			Haem SAS	10 days	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
JAK3	JAK3	EDTA whole blood			Haem SAS	25 days	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
Kappa Light Chains	KAP	SST serum	Clotted Red Top		Haem SAS	1 Day	GWH	
Ketones (urine)	GBC	Random Urine in Plain Universal			Chem SAS	1 Day	GWH	For samples requiring Organic/Amino Acids split sample in two and freeze
Lactate (CSF)	CLAC	CSF in Fluoride bottle (grey top)	CSF		Chem SAS	4 hours	JRH Biochemistry	
Lactate (plasma)	LACT				Chem SAS	14 Days		Lactate is only available on a CSF sample (see test code CLAC). Wards should use their Blood Gas machine instead. Use the

								REJC to reject a blood sample
Lactate Dehydrogenase	LDH	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Lactate Dehydrogenase LD / LDH (serum)	LDH	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Lactate Dehydrogenase LDH (CSF)	CLDH	CSF			Chem SAS	1 day	GWH	
Lactate Dehydrogenase LDH (fluid)	FLDH	Universal			Chem SAS	1 day	GWH	
Lamotrigine	LAMO	EDTA Plasma			Chem SAS	7 days	CAR - Cardiff Toxicology	
Laxative Screen (urine)	ULAX	Random Urine in Plain Universal			Chem SAS	14 Days	Southampton Biochemistry	
Lead (blood)	BL	EDTA whole blood			Chem SAS	10 days	UHW - Cardiff University Hospital Wales	If FBC requested and only 1x EDTA send to Haematology first
Leptin	LEP	Lithium Heparin Plasma			Chem SAS	14 Day	ABH - Cambridge Addenbrookes Hospital	Pass Urgently to Chem SAS team
Leucocyte Cystine	LCL	SST serum			Chemistry	1 Day	GWH	
Leukaemia Cytogenetic and Bone Marrow Studies	Please refer to a Senior for test code	Bone Marrow in cytogenetic medium			Haem SAS	10 days	WRG - Wessex Regional Genetics Salisbury	
Leukaemia Cytogenetic and Bone Marrow Studies	OTHH	Bone Marrow in			Haem SAS	7 days	IOX - Churchill Immunology Oxford	

		cytogenetic medium						
Levetiracetam	LEVI	EDTA Plasma			Chem SAS	7 days	CAR - Cardiff Toxicology	
LFT - Liver Function Tests - includes: ALP / ALT / TBIL / ALB	LFT	SST serum	Clotted Red Top	Paediatric Lithium Heparin	Chemistry	1 day	GWH	
Lgi1 & CASPR2 Antibodies (serum)	LGCS	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Lgi1 Antibodies (CSF)	LGCC	CSF			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
LHRH Stimulation Test	LHRR	SST serum			Chemistry	1 Day	GWH	
Lipase	LIPA / AM	SST serum			Chemistry	1 day	GWH	DO NOT REQUEST LIPA instead change LIPA to AM for Amylase
Lipid Studies - includes LDL / HDL / Cholesterol / Triglyceride	LIP	SST serum	Clotted Red Top	Paediatric Lithium Heparin	Chemistry	1 day	GWH	
Lipoprotein a (Lpa)	LIPO	SST serum	Lithium Heparin Plasma		Chem SAS	7 days	UHW - Cardiff University Hospital Wales	
Lithium	LI	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Liver Autoantibody Testing / AIP Panel / Smooth Muscle antibodies / Mitochondrial antibodies / Gastric Parietal Cell antibody / LKM antibody / ANA	LKS & HEP2	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	

Low Affinity MG Antibodies	HSMG	SST serum			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
LSD (urine)	UDS	Random Urine in Plain Universal			Chem SAS	1 day	CHB - Birmingham City Hospital	
Lupus Anticoagulant	LUP	4x Citrate (blue top) & 1x EDTA & 1x SST			Haematology	10 days	NOC Haemophilia	
Luteinising Hormone	LH	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Lymphocyte Subsets (CD3 CD4 CD8 CD56 CD19)	TBNK	EDTA whole blood			Haem SAS	3 days	IOX - Churchill Immunology Oxford	Samples must arrive uncentrifuged and unrefrigerated.
Macroamylase	Please refer to a Senior for test code	SST serum	Clotted Red Top		Chem SAS	1 day	Eastbourne Biochem	
Macroprolactin	MACP	SST serum	Clotted Red Top		Chem SAS	6 days	Southampton Biochemistry	
Magnesium	MG	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Magnesium (24hr urine)	MG24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	JRH Biochemistry	

Magnesium (random urine)	UMG	Random Urine in Plain Universal			Chem SAS	1 day	JRH Biochemistry	
Malaria Antigen	MPA	EDTA whole blood			Haematology	1 day	GWH	Full history of overseas travel & prophylaxis & medication must be prescribed.
Malaria Parasites - by inspection of thin & thick blood films	MP	EDTA whole blood			Haematology	1 day	GWH	Full history of overseas travel & prophylaxis & medication must be prescribed.
Malaria Parasites - further investigations	Please refer to a Senior for test code	EDTA whole blood			Haem SAS	3 to 5 days	HPA Malaria	
Manganese	MN	Navy Blue Top Trace Elements Bottle			Chem SAS	10 days	TEC - Cardiff Trace Elements	Put on a separate Lab Number if with other tests - unless SELE CU ZINC - these can all be on one Lab Number.
Mannose Binding Lectin	MBL	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 days	Sheffield PRU	

Mast Cell Tryptase	MTRY	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
MCAD Medium Chain CoA Dehydrogenase / MCADD Multiple Acyl CoA Dehydrogenase Deficiency (Aycl Carnitines)	MCAD	Blood Spots			Chem SAS	16 days	Southampton Biochemistry	
MCAD Screen (urine)	Please refer to a Senior for test code	Random Urine in Plain Universal			Chem SAS	10 days	Southampton Biochemistry	
Melatonin 6-sulphatoxymelatonin (24hr urine)	Please refer to a Senior for test code	24hr Urine collection into Plain Bottle			Chem SAS	14 Days	Southampton Biochemistry	Protect from light.
Mercury (blood)	HG	EDTA whole blood			Chem SAS	10 days	TEC - Cardiff Trace Elements	If FBC requested and only 1x EDTA send to Haematology first
Mercury (urine)	RUH1	Random Urine in Plain Universal			Chem SAS	10 days	TEC - Cardiff Trace Elements	
Metabolic Screen (urine)	MM	Random Urine in Plain Universal			Chem SAS	1 Day	GWH	

Metadrenalines / Metanephrines (24hr urine)	24ME	24hr Urine collection into Plain Bottle			Chem SAS	14 days	JRH Biochemistry	
Metadrenalines / Metanephrines / Vanillylmandelic Acid (VMA) (urine)	RUME	Random Urine in Plain Universal			Chem SAS	14 days	JRH Biochemistry	
Metanephrines (plasma)	PMET	EDTA Plasma			Chem SAS	10 days	CBW - Wythenshawe Clinical Biochemistry	Patient should be supine for 10mins before venepuncture (not sitting for 10mins then walking to another room for bleeding - must stay laying face up for 10mins & while samples are taken).
Methaemoglobin	OMHB				Chemistry	1 Day	GWH	
Methanol	MEOH	Fluoride (grey top)	Lithium Heparin Plasma		Chem SAS	3 Day	CHB - Birmingham City Hospital	Cannot use serum from SST.
Methotrexate High Dose monitoring (not available for low dose monitoring)	METH	SST serum	Clotted Red Top		Chem SAS	10 days	JRH Biochemistry	
Methyl Malonic Acid (MMA) (blood)	MMA	EDTA Plasma			Chem SAS	10 days	NSU - Nutristasis Unit St Thomas Hospital	If FBC requested and only 1x EDTA send to Haematology first Plasma must be separated from cells

								ASAP after sampling & must be frozen.
Methyl Malonic Acid (MMA) (urine quantification)	MISU	Random Urine in Plain Universal			Chem SAS	10 days	Southmead Biochemistry	
Methyl Malonic Acid (MMA) (urine)	MISU	Random Urine in Plain Universal			Chem SAS	10 days	Southampton Biochemistry	
Methylhistamine (24hr urine)	UMH	24hr Urine collection into Plain Bottle			Chem SAS	28 days	Sheffield PRU	
Microalbumin	UMA	Random Urine in Plain Universal			Chem SAS	3 days	GWH	
Mixing Studies (for APTT or PT)	MSPT	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	2 days	GWH	
Mixing Studies for APTT	MSAP	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	2 days	GWH	
MODY Genetic Testing for Monogenic Diabetes		2x EDTA whole blood			Haem SAS	N/a	ECC - Exeter Clinical Chemistry	Do not label book in or spin samples. Give to Haem SAS for them to send away
MOG (Myelin Oligodrendrocyte Antibodies) (serum)	MOG	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	

Molecular Screening for Haemoglobinopathy / Thalassaemia	Please refer to a Senior for test code	EDTA whole blood			Haem SAS	21 days	JRH Haematology	
MPO Antbody	MPO	SST serum			SAS	4 days	IOX - Churchill Immunology Oxford	
Mucopolysaccharide / Glycosaminoglycans	MPS	Random Urine in Plain Universal			Chem SAS	28 days	SCH - Sheffield Childrens Hospital	
Musk Antibodies with or without Acetylcholine Receptor Antibodies	MYGR	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Mycophenolate MPA / MMF	MPA1	EDTA whole blood			Chem SAS	10 days	Kings ILS	If FBC requested and only 1x EDTA send to Haematology first
Myelin Associate Glycoprotein IgM Antibodies MAG (serum)	MAG	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Myeloid Panel	MYP	EDTA whole blood			Chem SAS	25 days	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
Myeloma - FISH Test	MYPF	Bone Marrow in			Haem SAS	7 days	WRG - Wessex Regional Genetics Salisbury	

		cytogenetic medium						
Myoglobin	MISU	Random Urine in Plain Universal			Chem SAS	1 day	Sheffield PRU	
Myositis Extended Immunoblot	MYLB	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Na Sodium serum (part of UE group code)	NA	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Na+ Sodium (24hr urine)	NA24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Na+ Sodium (urine)	UNA	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Neurotensin	NUTS	SST serum			Chemistry	1 Day	GWH	
Neutrophil CD18	LAD	SST serum			Chemistry	1 Day	GWH	
NMDA Receptor Antibodies (CSF)	NMGA	CSF			Haem SAS	10 Day	IOX - Churchill Immunology Oxford	Often paired with NMDA on serum sample - ensure to request both
NMDA Receptor Antibodies (serum)	NMDA	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	Often paired with NMDA on CSF sample - ensure to request both
Normetanephrine (urine)	NN	Random Urine in			Chemistry	1 Day	GWH	

		Plain Universal						
NPM1 Screen	NPMS	EDTA whole blood			Chem SAS	18 days	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
N-Terminal pro-B type natriuretic peptide (NT-Pro BNP)	NBNP	SST serum			Chem SAS	10 days	JRH Biochemistry	Cardiology and Haematology patients only (including history)
Oestradiol	OE2	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Oligoclonal Bands (CSF)	COLI	CSF			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Oligoclonal Bands (serum)	COL1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Oligosaccharides (urine)	OLIG	Random Urine in Plain Universal			Chem SAS	20 days	Southampton Biochemistry	
Omega 5 Gliadin Ab & IgE / RAST to Wheat	OAB& IGE / RAST TOO	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	14 Days	Southampton Biochemistry	
Optimise Test	OISO	SST serum			Chemistry	1 Day	GWH	

Orexin Levels (Hypocretin) (CSF)	OREX	CSF			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Organic Acids (urine)	OAA	Random Urine in Plain Universal			Chem SAS	14 days	SCH - Sheffield Childrens Hospital	
Orotic Acid (urine)	OAA	Random Urine in Plain Universal			Chem SAS	14days	SCH - Sheffield Childrens Hospital	
Osmolality (fluid)	FOSM	Universal			Chem SAS	1 day	GWH	
Osmolality (random urine)	OSMU	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Osmolality (serum)	OSMO	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Other Immunology test (serum)	OTHR	SST serum			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Ovarian Antibodies	OVA	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Oxalate (24hr urine)	24OX	24hr Urine collection into Conc. HCL Bottle			Chem SAS	5 days	UCL - Biochemistry Department UCLH	Boric Acid is not suitable.
Oxalate (random urine)	UOX	Random Urine in			Chem SAS	5 days	UCL - Biochemistry Department UCLH	Boric Acid is not suitable.

		Plain Universal						
Oxcarbazepine	OCBZ				Chemistry	7 Day	GWH	
Oxford Genetics (specific Oxford form)	OTHH	Various			Haem SAS	N/a	CHUR - Oxford Regional Genetics Laboratory	
Paediatric Metanephrines (Catecholamines / Vanillylmandelic Acid) previously RMET (urine)	RUME	Random Urine in Plain Universal			Chem SAS	10 days	Southampton Biochemistry	
Pancreatic Islet Cell Antibodies	ICA	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Paracetamol	PAR	SST serum			Chemistry	1 hour	GWH	
Paraneoplastic / Neuronal Antibodies / Purkinje Cell Antibodies: Anti Yo Hu Ri by IIF (CSF)	PNCF	CSF			Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Paraneoplastic / Neuronal Antibodies / Purkinje Cell Antibodies: Anti Yo Hu Ri by IIF (serum)	PNEB	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Paraprotein	MYEK	SST serum	Clotted Red Top		Chem SAS	10 days	IOX - Churchill Immunology Oxford	If known Myeloma patient use code MYEK. If unsure use code MYES.
Paraprotein 2 level	MYEK	SST serum	Clotted Red Top		Chem SAS	10 days	IOX - Churchill Immunology Oxford	If known Myeloma patient use code MYEK. If unsure use code MYES.
Paraprotein 3 level	MYEK	SST serum	Clotted Red Top		Chem SAS	10 days	IOX - Churchill Immunology Oxford	If known Myeloma patient use code

								MYEK. If unsure use code MYES.
Paraquat (urine)	PQT	Random Urine in Plain Universal			Chem SAS	4 days	Southmead Toxi	
pH (fluid)	FLPH	Universal			Chem SAS	1 day	GWH	
pH (urine)	UPH	Random Urine in Plain Universal			Chem SAS	1 Day	GWH	
Phenobarbitone	PHEB	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	2 days	JRH Biochemistry	
Phenylalanine	Please refer to a Senior for test code	SST serum	Clotted Red Top		Chemistry	3 days	GWH	
Phenylalanine (blood spot)	BPHE	Blood Spots	SST serum	Clotted Red Top	Chem SAS	6 days	OUH - JRH Biochemistry	
Phenytoin	PHEN	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Phosphate (24hr urine)	PH24	Random Urine in Boric Acid Universal			Chem SAS	1 day	GWH	
Phosphate (random urine)	UPHO	Random Urine in			Chem SAS	1 day	GWH	

		Plain Universal						
Phosphate Inorganic (serum)	PHOS	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Pipecolic Acid (CSF)	PIPC	CSF			Chem SAS	42 Day	SCH - Sheffield Childrens Hospital	
PLA2R Phospholipase A2 Receptor Antibody	PA2A	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Placenta Growth Factor (PlGF)	PLGF	SST serum	Clotted Red Top		Chem SAS	2 days	JRH Biochemistry	
Plasma Viscosity	PV	EDTA whole blood			Chem SAS	10 days	JRH Haematology	If FBC requested and only 1x EDTA send to Haematology first
Plasminogen	PLAS	EDTA whole blood			Chemistry	1 Day	GWH	
Platelet Aggregation	PLAG	4x Citrate (blue top)			Haematology	1 Day	JRH Coagulation	
Platelet Antibodies	PANTIP	SST serum			Chemistry	1 Day	GWH	
Platelets	FBC	EDTA whole blood	Citrate (blue top)	Paediatric Citrate (flat green top)	Haematology	1 day	GWH	
PML-RARA	PRARP	EDTA whole blood			Chem SAS	2-3 weeks	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge

Pneumococcal Serotypes Antibodies	APA	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
PNH Screen	PNH	EDTA whole blood			Haem SAS	10 days	Birmingham Imm	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on Haem SAS bench not fridge
Porphobilinogen (urine)	UPBG	Random Urine in Plain Universal			Chem SAS	14 days	Cardiff POC	Sample must be protected from light
Porphyrins (blood)	RTPO	EDTA whole blood	Paediatric Lithium Heparin		Chem SAS	10 days	Cardiff POC	Sample must be protected from light
Porphyrins (urine)	UPOR	Random Urine in Plain Universal			Chem SAS	14 days	Cardiff POC	Sample must be protected from light
Potassium K+	K	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Potassium K+ (24hr urine)	K24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Potassium K+ (fluid)	FK	Universal			Chem SAS	1 day	GWH	
Potassium K+ (urine)	UK	Random Urine in Plain Universal			Chem SAS	1 day	GWH	

PR3 Antibody	PR3	SST serum			SAS	4 days	IOX - Churchill Immunology Oxford	
Pre Eclampsia and Toxaemia Profile - includes UE LFT UA	Please refer to a Senior for test code	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Prednisolone	PRED	SST serum			Chem SAS	14 Days	CBW - Wythenshawe Clinical Biochemistry	
Primidone - not routinely available	PRIM	SST serum	Clotted Red Top		Chemistry	10 days	GWH	
Procalcitonin	PCT	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chemistry	1 day	GWH	For ICU patients only
Procollagen Extension Peptide P1NP	P1NP	Lithium Heparin Plasma	SST serum		Chem SAS	10 days	JRH Biochemistry	
Progesterone	PROG	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Proinsulin	PINS	Clotted Red Top			SAS	14 Day	RSC - Royal Surrey County Hospital Guildford	
Prolactin	PROL	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Prostatic-Specific Antigen (PSA)	PSA	SST serum	Clotted Red Top		Chemistry	1 day	GWH	For male patients only - looking for prostate cancer

Protein (fluid)	FTP	Universal			Chem SAS	1 day	GWH	
Protein and Protein:Creatinine Ratio (urine)	UP	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Protein C Activity	PC	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	10 days	NOC Haemophilia	
Protein Electrophoresis Serum	MYES	SST serum	Clotted Red Top		Chem SAS	10 days	IOX - Churchill Immunology Oxford	Ensure to request MYES and not PQQ for protein electrophoresis
Prothrombin Mutation 20210A	PGM	EDTA whole blood	Citrate (blue top)		Haematology	10 days	NOC Haemophilia	
PTH Parathyroid Hormone (Renal Unit)	PTH	EDTA Plasma			Chem SAS	1 day	JRH Biochemistry	If FBC requested and only 1x EDTA send to Haematology first
PTH Parathyroid Hormone (serum)	SPTH	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
PTR Ratio	PTR	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	1 day	GWH	
Purines (plasma)	PPUR				Chemistry	1 Day	GWH	
Purines (urine)	UPUR	Random Urine in Plain Universal			Chemistry	1 Day	GWH	
Pyroglutamic acid / 5-oxoproline	OAA	Random Urine in			SAS	14 days	SCH - Sheffield Childrens Hospital	

		Plain Universal						
Pyruvate and Lactate	PYR	Fluoride (grey top)			Haem SAS	21 days	GOB - GOS Biochemistry	
Rare Anaemia Iron Panel	Please refer to a Senior for test code	EDTA whole blood			Haem SAS	6 weeks	IOX - Churchill Immunology Oxford	
Red Cell Folate	RCF	EDTA whole blood			Haem SAS	10 days	JRH Haematology	
Renin	REN	EDTA Plasma			Chem SAS	10 days	JRH Biochemistry	Patient should be supine for 10mins before venepuncture (not sitting for 10mins then walking to another room for bleeding - must stay laying face up for 10mins & while samples are taken). Time sensitive
Renin/Aldosterone	ALDR	EDTA Plasma			SAS	10 days	OUH - JRH Biochemistry	Patient should be supine for 10mins before venepuncture (not sitting for 10mins then walking to another room for bleeding - must stay

								laying face up for 10mins & while samples are taken). Time sensitive
Reticulocytes Retics	RET	EDTA whole blood			Haematology	1 day	GWH	
Rheumatoid Factor	RF	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Rivaroxaban Anti-Xa	RIVA	Citrate (blue top)	Paediatric Citrate (flat green top)		Haematology	10 Days	JRH Coagulation	
Salicylate (Aspirin various brand names)	SCYL	SST serum	Clotted Red Top		Chemistry	1 hour	GWH	
Selenium	SE	SST serum	Clotted Red Top	Navy Blue Top Trace Elements Bottle	Chem SAS	10 days	TEC - Cardiff Trace Elements	
Serum Free Light Chain analysis	SFLC	SST serum	Clotted Red Top		Haem SAS	20 days	IOX - Churchill Immunology Oxford	
Serum Heavy Chain Analysis	HEVL	SST serum	Clotted Red Top		Haem SAS	14 days	IOX - Churchill Immunology Oxford	
Serum Immunotyping	STYP	SST serum			Chemistry	1 Day	GWH	

Serum Storage (needlestick injury)	SSS	Clotted Red Top	SST serum		Virology	1 Day	GWH	
Sex Hormone Binding Globulin SHBG	SHBG	SST serum	Clotted Red Top		Chem SAS	10 days	JRH Biochemistry	
Sickle Cell	SICK	EDTA whole blood			Haematology	3 days	GWH	
Sirolimus	SIRO	EDTA whole blood			Chem SAS	10 days	Kings ILS	Renal patients only. If FBC requested and only 1x EDTA send to Haematology first
Skeletal / Striated Muscle Antibodies	SKEL	SST serum	Clotted Red Top		SAS	10 days	SIG - Sheffield PRU	
Skin Antibodies Pemphigoid IgG & Pemphigus IgG	SKIN	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Sodium Na	UE	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Sodium Na (24hr urine)	NA24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Sodium Na (fluid)	FNA	Universal			Chem SAS	10 days	GWH	
Specific IgE Almond	F20	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Amoxycillin (Amoxicilloyl)	C6	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Anchovy	F313	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Apple	F49	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Apricot	F237	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Aspergillus Fumigatus	M3	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Aubergine (eggplant)	F242	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Avocado	F96	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Banana	F92	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Barley	F6	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Basil	F269	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Beef	F27	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Black Pepper	F280	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Blackberry	F211	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Blue Mussel	F37	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Brazil Nut	F18	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Buckwheat	F11	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Cacao (Chocolate or Cocoa)	F93	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Caged Feather Mix (includes Budgeriga / Canary / Parakeet / Parrot / Finch)	EX72	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Candida albicans	M5	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Carrot	F31	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Cashew Nut	F202	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Cat Dander	E1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Asthma Panel (RENT) request E1 E5 TX8 GX1 D1 MX1. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Celery	F85	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Cheese Cheddar type	F81	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Cheese Mold type	F82	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Cherry	F242	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Chestnut (Sweet Chestnut)	F299	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Specific IgE Chicken	F83	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Chickpea	F309	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Childrens Food Mix (includes Egg white / Milk / Fish / Wheat / Peanut / Soybean)	FX5	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Chilli Pepper	F279	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Chlorhexidine	C8	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Clam	F207	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Coconut	F36	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Coffee	F221	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Common Ragweed	W1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Common Wasp Venom (Yellow Jacket)	I3	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Coriander	F317	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Corn (Maize)	F8	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Cows Milk	F2	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Paediatric Mix request F13 F1 F3 F14 F2 and F4. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Crab	F23	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Cucumber	F244	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Date	F289	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Dog Dander	E5	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Asthma Panel (RENT) request E1 E5 TX8 GX1 D1 MX1. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Egg White	F1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Paediatric Mix request F13 F1 F3 F14 F2 and F4. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Egg Yolk	F75	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE European Hornet Venom	I75	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Feather Mix	EX71	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Ferret Epithelium	E217	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Fish Cod	F3	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Paediatric Mix request F13 F1 F3 F14 F2 and F4. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Garlic	F47	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Gelatin Bovine	C74	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Ginger	F270	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Gluten	F79	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Goat milk	F300	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Grape	F259	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Grass Mix 1 (includes Cocksfoot grass / Meadow fescue / Rye-grass / Timothy grass / Meadow grass / Kentucky blue)	GX1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Asthma Panel (RENT) request E1 E5 TX8 GX1 D1 MX1. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Grey Alder	T2	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Guinea Pig Epithelium	E6	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Haddock	F42	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Hampster Epithelium	E84	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Hazel Nut	F17	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Honey Bee Venom	I1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Horse Dander	E3	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE House Dust Mite	D1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Asthma Panel (RENT) request E1 E5 TX8 GX1 D1 MX1. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Isocyanate HDI (Hexamethyene Diisocyanate)	K77	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Isocyanate MDI (Diphenylmethane Diisocyanate)	K76	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Isocyanate TDI (Toulene Diisocyanate)	K75	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Kiwi Fruit	F84	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Latex	K82	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Lemon	F208	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Lentil	F235	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Lettuce	F215	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Lime	F306	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Linseed	F333	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Lobster	F80	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Lupin Seed (Lupin flour)	F335	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Macadamia nut	F345	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Mackerel	F206	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Mango	F91	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Melon	F87	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Micropolyspora Faeni IgG	MFAB	SST serum	Clotted Red Top		Chem SAS	14 Days	CUMB - Cumbria Infirmary	
Specific IgE Mosquito	I71	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Mould Mix (includes Penicillium chrysogenum / Cladosporium herbarum / Aspergillus fumigatus / Alternaria alternata	MX1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Asthma Panel (RENT) request E1 E5 TX8 GX1 D1 MX1. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Mouse Urine Proteins	E72	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Mugwort	W6	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Mushroom (champignon)	F212	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Mustard	M89	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Mutton (Lamb)	F88	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Nuts Mix 1 (includes Peanut / Hazlenut / Brazil nut / Almond / Coconut)	FX1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Nuts Mix 2 (includes Pecan nut / Cashew nut / Pistachio / Walnut)	FX22	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Oat	F7	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Olive	F342	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Onion	F48	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Orange	F33	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Oyster	F290	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pacific Squid	F58	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Paprika / Sweet Pepper	F218	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Parsley	F86	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Pea	F12	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Peach	F95	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Peanut	F13	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Paediatric Mix request F13 F1 F3 F14 F2 and F4. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pear	F94	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pecan Nut	F201	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Penicillin G (Benzyl penicillin)	C1	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Penicillin V (Phenoxymethylpenicillin)	C2	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pigeon Droppings	E7	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pigeon Feathers	E215	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pine nut / pignoles	F253	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pineapple	F210	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pistachio Nut	F203	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Plum	F255	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Poppy Seed	F224	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pork	F26	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Potato	F35	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Poultry Feather Mix (includes Goose / Chicken / Duck / Turkey)	EX71	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Pumpkin	F225	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Rabbit Epithelium	E82	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Rape (pollen)	W203	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Rape seed (whole seed)	F316	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Raspberry	F343	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Rat Urine Proteins	E74	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Rice	F9	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Rye	F5	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Salmon	F41	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Scallop	F338	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Seminal Fluid	O70	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Sesame Seed	F10	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Shrimp / Prawn	F24	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be

								provided for any other tests required
Specific IgE Soya (Soybean)	F14	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Paediatric Mix request F13 F1 F3 F14 F2 and F4. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Spinach	F214	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Strawberry	F44	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Sunflower Seed	K84	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Suxamethonium (Succinylcholine)	C202	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required

Specific IgE Tomato	F25	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Tree Pollen Mix (includes Box Alder / Silver Birch / Common Hazel / White Oak / London Plane)	TX8	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Asthma Panel (RENT) request E1 E5 TX8 GX1 D1 MX1. RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Trout	F204	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Tuna	F40	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Walnut	F256	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Wheat	F4	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	For Paediatric Mix request F13 F1 F3 F14 F2 and F4. RAST

								tests need their own SST. A second SST should be provided for any other tests required
Specific IgE White Bean (Phaseolis vulgaris - common bean)	F15	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Specific IgE Yeast (saccharomyces cerevisiae used in baking & brewing)	F45	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	RAST tests need their own SST. A second SST should be provided for any other tests required
Split Bilirubin - includes TBIL / CBIL / UBIL	SBIL	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Stem Cells	SCES	EDTA whole blood & Citrate (blue top) & SST			Haem SAS	N/a	NHS BT	
Steroid Profile (24hr urine)	STER	24hr Urine collection into Plain Bottle			Chem SAS	10 days	KING - Kings College Hospital	
Sterols by GC-MS	7DHC	SST serum			Chemistry	10 days	GWH	
Stone Analysis	STON	Stones (Calculi)			Chem SAS	14 days	UCL - UCLH Biochemistry	Not appropriate for Gall Stones

Sugar Chromatography (faeces)	FSC	Faeces			Chem SAS	3-6 weeks	Southampton Biochemistry	
Sugar Chromatography (urine)	USC	Random Urine in Plain Universal			Chem SAS	14 Days	Southampton Biochemistry	
Sulphonylurea (serum)	SSUL	SST serum	Lithium Heparin Plasma		Chem SAS	10 days	RSC - Royal Surrey County Hospital Guildford	
Sulphonylurea (urine)	USUL	Random Urine in Plain Universal			Chem SAS	7 Day	RSC - Royal Surrey County Hospital Guildford	
Systemic Sclerosis Immunoblot (includes Centromere antibodies PM-Scl antibodies	SSLB	SST serum	Clotted Red Top		Haem SAS	14 Days	BATH - Royal United Hospital	
Tacrolimus (Kings College)	FK50	EDTA whole blood			Chem SAS	3 days	Kings College	If FBC requested and only 1x EDTA send to Haematology first
Tacrolimus Renal Unit (to Oxford)	FK50	EDTA whole blood			Chem SAS	3 days	OUH - JRH Biochemistry	If FBC requested and only 1x EDTA send to Haematology first
Teicoplanin (on samples as TELE)	TEIC	SST serum	Clotted Red Top		Chem SAS	14 Days	Antimicrobial Laboratory Reference Lab - Southmead Hospital	
Testosterone	TEST	SST serum	Clotted Red Top		Chemistry	1 day	GWH	

Testosterone (salivary)	Please refer to a Senior for test code	Saliva			Chem SAS	5 weeks	CBW - Wythenshawe Clinical Biochemistry	
Testosterone (to check level obtained here)	Please refer to a Senior for test code	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	4 days	RUH Bath	
Testosterone by TMS	MTES	SST serum			Chem SAS	14 Days	Southampton Biochemistry	Refrigerate if being sent in 1-2 days but freeze if not being sent for several days (ie weekend).
Tetanus IgG Antibody	TETA	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Theophylline / Aminophylline	THEO	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Thiopurine Methyl Transferase (TPMT)	TPMT	EDTA whole blood			Chem SAS	10 days	CHB - Birmingham City Hospital	Can use Lithium Heparin whole blood. Samples stable for 2 weeks. If FBC requested and only 1x EDTA send to Haematology first

Thiopurine Methyl Transferase (TPMT) Genotype	Please refer to a Senior for test code	EDTA whole blood			Chem SAS	1 day	CHB - Birmingham City Hospital	Can use Lithium Heparin whole blood. If FBC requested and only 1x EDTA send to Haematology first
Thrombophilia clotting screen includes Protein C activity (PC) / Free Protein S antigen (FPS) / Anti Thrombin activity (ATA) / TRC	THS	4x Citrate (blue top) & 1x EDTA & 1x SST			Haematology	10 days	NOC Haemophilia	Please spin the SST
Thrombophilia Genetics (Factor V Leiden / Prothrombin Mutation)	TGEN	EDTA whole blood	Citrate (blue top)		Haematology	10 days	NOC Haemophilia	
THSD7A Thrombospondin Type 1 Domain Containing 7A	TD7A	SST serum	Clotted Red Top		Haem SAS	18 days	Sheffield PRU	
Thyroglobulin	TGB	SST serum	Clotted Red Top		Chem SAS	10 days	OUH - JRH Biochemistry	Only indicated in patients with thyroid cancer.
Thyroid Function Test (TSH)	TSH	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Thyroid Investigations	TSD	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	25 days	RUH Bath	
Thyroid Peroxidase Antibodies TPO	TPO	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	
Tobramycin	TOBR	SST serum	Clotted Red Top		Chemistry	1 day	GWH	

Topiramate	TOPI	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	2 days	CCE - Chalfont Centre for Epilepsy	
Total Bilirubin	TBIL	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Total IgE Immunoglobulin E	IGE	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Total Pneumococcal IgG Antibodies	PNEU	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
Total Protein (24hr urine)	P24	Random Urine in Boric Acid Universal			Chem SAS	1 day	GWH	Can share bottle for Creatinine
Total Protein (CSF)	CTP	CSF			Chem SAS	1 day	GWH	
Total Protein (random urine)	UP	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Total Protein (Serum)	TP	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Toxicology (blood)	BNSD	Lithium Heparin Plasma	EDTA whole blood	Clotted Red Top	Chem SAS	2 days	CHB - Birmingham City Hospital	Serum from Red Top acceptable. Samples with separator gel cannot be used
TP53	TP53	EDTA whole blood			Chem SAS	3 weeks	CHUR - Oxford Regional Genetics Laboratory	Sometimes sent as Bone Marrow in EDTA in which case keep at room temperature on

								Haem SAS bench not fridge
Transferrin Glycoforms (Transferrin Electrophoresis)	IRON	Clotted Red Top			Chem SAS	10 days	UCLH Neurorology	Rare test - has to be approved by Dr Rostom with special circumstances. Change request to IRON.
Transferrin Isoforms (previously TRFI)	IRON	SST serum			Chem SAS	10 days	GWH	Please change TRFI to IRON
TRH Stimulation Test	TRH	SST serum			Chemistry	1 Day	GWH	
Trimethylamine (urine)	TMA	24hr Urine collection into Plain Bottle			Chem SAS	10 days	Southampton Biochemistry	
Tryptase (blood)	MTRY	SST serum	Clotted Red Top		Chem SAS	10 Day	IOX - Churchill Immunology Oxford	
TSH Blood spot	BTSH	Blood Spots			Chem SAS	1 Day	GWH	
TSH Receptor Antibodies (also written as TRAB previously TBII) TSHR Antibodies	TRA	SST serum	Clotted Red Top		Chem SAS	10 days	IOX - Churchill Immunology Oxford	
Type 3 Procollagen Peptide PIIINP	P3N	SST serum			SAS	10 days	Manchester Liver Unit	
Tyrosine blood spot	BTYR	Blood Spots			Chem SAS	1 Day	GWH	

UE No Urea - includes Sodium (NA) Potassium (K) Creatinine (CREA) GFR & AKI	UE2	SST serum	Clotted Red Top	Paediatric Lithium Heparin	Chemistry	1 day	GWH	
UE with Urea - includes Sodium (NA) Potassium (K) Creatinine (CREA) Urea (UREA) GFR & AKI	UE	SST serum	Clotted Red Top	Paediatric Lithium Heparin	Chemistry	1 day	GWH	
Unconjugated Bilirubin	UBIL	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Urate / Uric Acid (24 hour urine)	UA24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	OUH - JRH Biochemistry	
Urate / Uric Acid (random urine)	UUA	Random Urine in Plain Universal			Chem SAS	20 days	OUH - JRH Biochemistry	
Urea (24hr urine)	UR24	24hr Urine collection into Plain Bottle			Chem SAS	1 day	GWH	
Urea (fluid)	FUR	Universal			Chem SAS	1 day	GWH	
Urea (includes GFR & AKI)	UREA	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Urea (PD peritoneal dialysis fluid)	UDF	Tan colour top			Chemistry	1 day	GWH	

Urea (random urine)	UU	Random Urine in Plain Universal			Chem SAS	1 day	GWH	
Uric Acid	UA	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Urine Reducing Substances	URS	Random Urine in Plain Universal			Chem SAS	14 Days	ALDERHEY - Biochemistry Alder Hey Hospital Liverpool	
Urobilinogen (urine)	GBC	Random Urine in Plain Universal			Chem SAS	1 Day	GWH	
Ustekinumab	USTL	SST serum	Clotted Red Top		SAS	4 weeks	RDE - Royal Exeter and Devon Hospital	
Valproate / Epilim / Depakote Valpronic Acid-Semi-Sodium Valproate	VALP	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	5 days	JRH Biochemistry	
Vancomycin	VANC	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Vascular Endothelial Growth Factor (VEGF)	VEGF	SST serum	Clotted Red Top		SAS	10 days	NHNN - National Hospital for Neurology and Neurosurgery (UCL)	
Vedolizumab Antibodies	MISB	SST serum	Clotted Red Top		Haem SAS	2-4 weeks	ECC - Exeter Clinical Chemistry	Lithium Heparin not suitable

Very Long Chain Fatty Acids	VLCFA	SST serum	Clotted Red Top	Lithium Heparin Plasma	Chem SAS	10 days	SCH - Sheffield Childrens Hospital	
Vigabatrin	VIGA	SST serum			Chemistry	1 Day	GWH	
Vitamin A	VITA	Lithium heparin (non-gel)	EDTA	Plain clotted sample	Chem SAS	10 days	GRI - Glasgow Royal Infirmary	
Vitamin B1 / Thiamine	B1RC	EDTA whole blood			SAS	10 days	GRI - Glasgow Royal Infirmary	
Vitamin B12	BF	SST serum	Clotted Red Top		Chemistry	1 day	GWH	Also known as dementia screen or folate / haematinics
Vitamin B12 & Folate	BF	SST serum	Clotted Red Top		Chemistry	1 day	GWH	Also known as dementia screen or folate / haematinics
Vitamin B2 / Riboflavin	RIBO	EDTA whole blood			SAS	10 days	GRI - Glasgow Royal Infirmary	Light sensitive - wrap sample in tin foil.
Vitamin B6 / Pyridoxine	B6RC	EDTA Plasma	EDTA whole blood		SAS	10 days	GRI - Glasgow Royal Infirmary	Light sensitive - wrap red cell and plasma in tin foil.
Vitamin D	VITD	SST serum	Clotted Red Top		Chemistry	1 day	GWH	
Vitamin E	VITE	Lithium heparin (non-gel)	EDTA	Plain clotted sample	Chem SAS	20 days	GRI - Glasgow Royal Infirmary	
Vitreous Humour Glucose	VHG	SST serum			Chemistry	1 Day	GWH	

Voltage Gated Calcium Channel Antibodies (CSF)	CVGC	CSF			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	Can be with paired serum sample - ensure to request for both.
Voltage Gated Calcium Channel Antibodies (serum)	VGCC	SST serum			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	Can be with paired CSF sample - ensure to request for both.
Voltage Gated Potassium Channel Antibodies (serum)	VGKC	SST serum			Chem SAS	10 Day	IOX - Churchill Immunology Oxford	Add codes CASA and LGI. Can be with paired CSF sample - ensure to request for both.
Von Willebrand Assay	VWF	2x Citrate (blue top)			Haematology	10 days	NOC Haemophilia	
White Cell Enzymes / Spingomyelinase (Niemann-Pick disease) / Hexosaminidase A&B / Lysosomal Enzymes	WCE	Lithium Heparin whole blood			Chem SAS	10 days	GBG - Guys Biochemical Genetics	DO NOT SPIN SEPARATE OR FREEZE. Pass to SAS team ASAP.
Xanthochromia (CSF)	XANT	CSF			Chemistry	1 day	GWH	Wrap with foil to protect from light
Zinc	ZN	Lithium Heparin Plasma	Navy Blue Top Trace Elements Bottle		Chem SAS	10 days	OUH - JRH Biochemistry	
ZTN8 Antibodies	ZNT8	SST serum	Clotted Red Top		Haem SAS	10 Day	IOX - Churchill Immunology Oxford	Also request GAD and IA2. Lithium Heparin not suitable

Table 8

Not ISO 15189 ACCREDITED Tests

Abbreviation	Full Name
BB	COLD AGGLUTINS
AMH	Anti Mullerian Hormone (AMH)

Table 9

13.7 Critical Values – result limits where the laboratory should phone unexpected results

13.7.1 TELEPHONING CRITERIA - BIOCHEMISTRY LAB – continues on next page

Results need only be telephoned if they are a new finding i.e. previous results have not been a similar level.

Table 9

Analyte (Serum/Plasma)		All inpatient results and GP results (9-5) to be called within 2 Hrs. OOHs - GP/Community centre results to OOHs service.	
	Units	**Below (≤)**	**Above (≥)**
Sodium	**mmol/L**	120 130 (<16 years)	160
Potassium	**mmol/L**	2.5	6.0 6.5 **(For OOH and Renal Unit)**
Urea	**mmol/L**		30* ≥10 if <16 years 40 (For **Renal Unit**)
Creatinine*	**µmol/L**		≥350 ≥100 if <16 years

			500 (for **Renal Unit**)
AKI	**N/A**	**AKI Stage 1** (**If** potassium >6.0 mmol/L)	
		AKI Stages 2 and **3**	
Glucose	**mmol/L**	2.5	25 30 (Known Type 2 DM) (≥15 if <16 years)
Calcium (corrected)	**mmol/L**	1.8	3.5
CO2	**mmol/L**	10 (Inpatient only)	
Mg	**mmol/L**	0.40	
PO_4	**mmol/L**	0.30	
ALT	**IU/L**		675
AST	**IU/L**		675
Amylase	**IU/L**		600
Total Bilirubin (In neonates)	**µmol/L**		250
Conjugated Bilirubin (In neonates)	**µmol/L**		≥25 (Neonates aged up to 1 week)
Creatine Kinase	**IU/L**		5000
CRP (Not required for A/E or inpatients)	**mg/L**		300
Paracetamol	**mg/L**		10
Salicylate	**mg/L**		300
Gentamicin Pre-dose	**mg/L**		1.0
Tobramycin Pre-dose	**mg/L**		1.0
Tobramycin Post-dose/Random	**mg/L**		10.0
Vancomycin Pre-dose	**mg/L**		20.0
Digoxin	**ng/L**		2.5
Lithium	**mmol/L**		1.5
Phenytoin	**mg/L**		25
Theophylline	**mg/L**		25
Cortisol (Not ONDST)**	**nmol/L**	50	
Triglyceride	**mmol/L**		20
Ammonia	**µmol/L**		100

Ethanol	**mg/dL**		400
Uric acid **(Pregnant women only)**	**µmol/L**		340
CSF Xanthochromia	**N/A**	Any 'Positive' CSF Xanthochromia results (i.e. CSF Ref 4a, CSF Ref 4bi, CSF Ref 4bii, CSF Ref 4c and CSF Ref 5)	

#To only phone if first result, or result is >6.5 mmol/L and has increased by ≥0.5 mmol/L since previous sample.

*To phone if first abnormal or result has increased by 15 mmol/L or more since previous urea.

** To phone if first abnormal or result has increased by 100 µmol/L or more since previous creatinine.

***Glucoses between 11 – 20 mmol/L should also be phoned if patient is not a diagnosed diabetic.

Sodiums in Paediatrics - As well as the established values for critical sodium any sodium less than 125 mmol/L in children under 15 are to be phoned without delay

As of 9AM on 1st December 2022 there will be a new arrangement where chemisrty critical results are put out to Winpath/Careflow as soon as they are checked and available. ED will be expected to look up their results in a timely way.

The one exception is potassium where non haemolysed results greater than 6.5mmol/L are to be phoned to 7474. Please note that 7474 is the ED consultants' phone so with the exception of the potassium arrangement, this phone number is to be used sparingly as possible and any dialogue with ED put to their other numbers"

13.7.2 The following results are critical values in Haematology

Where patients have these results the laboratory will take all reasonable steps to telephone the results to the requesting clinician or other suitable agency. Where results are not significantly different from the previous results phoning of critical results only happens on request.

Test	**Cutoff Value**		
FBC			
Parameter	**Phone Limit**	**Comment**	**Film**
Haemoglobin	**< 75 g/l**	**Or fall of 40g/l in 24hrs**	**<100 Male**
			<90 Female
	>190 g/l	**Or PCV >0.55**	**>180 Male**
			>170 female
MCV			**>110**
			<73 (Add ferritin)
WBC	**> 30.0 x 10^9/l**		**> 30.0 x 10^9/l**
Neutrophils	**< 0.5 x 10^9/l**		**<1.5 Or >30**
	> 50 x 10^9/l		
Monocytes			**> 2 x 10^9/l or > 20% Add Manual differential count**
Lymphocytes	**> 30 x 10^9/l**	Unless known CLL.	**>5 If aged 10-40 add GFT also**
Basophils			**>0.3 x 10^9/l**
Platelets	**< 30 x 10^9/l**		**<120 or >800**
	>1000 x 10^9/l		
Coagulation parameters			
INR	**<1.5** (ward and GP patients)		
	> 4.5 (ward and GP patients)		
	>6.5 for anticoag patients (until 18:00 PM call Ext 4344, after 18:00PM call Out of hours)		
APTT	**> 45 sec** If there is no clinical reason		
	>180 if anticoagulated		
PT	**> 20** sec if there is no clinical reason		
Fib	**< 1.0 g/l**		
Other Test			
ESR	>70 mm and is associated with clinical details of temporal arteritis (TA), giant cell arteritis, or polymyalgia rheumatica, the results should be communicated		
Malarial Parasites	Positive		
Morphology	Presence of Blast or CML. Evidence of haemolysis if Hb < 80g/l. Grossly abnormal morphology.		
VITAMIN B12	less than 50		

Table 10

13.8 Receipt of pre-arranged Urgent or Critical Results - authorised personnel

Results will be phoned to the originator of the request or these authorised staff as follows:

Inpatients: **Either nurse in charge of ward (staff nurse or above) or requesting clinician (bleep number on request).**

Outpatients: **Requesting consultant's secretary**

GP Patient: **Receptionist or other member of the practice who has responsibility for receiving phoned results.**

GPs Out-of-Hours**: If the GP practice is closed the lab will be follow the phone message giving a contact phone number to call. The number for the Swindon Out-of-Hours GP Service is 646466. OOH for Wilts and Bath and North East Somerset (BANES) is now be provided by NHS 111. It is important to check that the correct and full demographic details and clinical details are given.**

14 REFERENCE LABORATORIES

14.1 General

As part of the testing process, it may be necessary to refer some, or all, of the sample to an external reference laboratory.

There is a detailed policy in place to govern how we choose these referral laboratories. They are selected for their expertise and their quality standards. They are also regularly checked for their accreditation status and performance including timeliness in returning results.

The details of the tests offered, name and location of the testing laboratory and information regarding any special sample requirements are given in Table 11 below.

The parameters analysed in referred tests and any reference ranges for these parameters will be displayed on the report when it is returned to the requestor.

The name of the reference laboratory used will be indicated on the Medway /ICE Blood Sciences report. The reference laboratories currently used are shown in Table 11 below and continues over the following pages. The order is in A to Z in order of the town or city in which the laboratory is based. Using the find option will find data inside the table

Table of Reference Laboratories – Table 11 follows below and on subsequent pages

14.1 - Table of Reference Laboratories - Table 11

Bath	Chemical Pathology, Royal United Hospital, Coombe Park,BATH,BA1 3NG	UKAS REF: 9403
Birmingham - B15	Clinical Immunology Laboratory, Division of Immunity & Infection, Vincent Drive, BIRMINGHAM, B15 2TT	UKAS: 9556
Birmingham-BCH	The Metabolic Section, Clinical biochemistry, Birmingham Children's Hospital, Laboratory Medicine Block, Whittle Street, BIRMINGHAM,B4 6NH	UKAS: 9948
Birmingham - City	Birmingham City Hospital, Dudley Road, BIRMINGHAM, WEST MIDLANDS,B18 7QH	UKAS: 8407
Brighton	Department of Clinical Pathology	UKAS:
	Royal Sussex County Hospital	9676
	Eastern Road, Brighton BN2 5BE	
Bristol - Filton NHSBT	500-600 North Bristol Park Northway, Bristol BS34 7QH	UKAS: 8740
Bristol -BRI	Department of Chemical Pathology, Bristol Royal Infirmary, Marlborough Street,BRISTOL,BS2 8HW	UKAS: 8061
Bristol-SMD-CIU	Cholinesterase Investigation Unit, Pathology Sciences Laboratory, Blood Sciences & Bristol Genetics, Southmead Hospital,Westbury-on-Trym,BRISTOL,BS10 5NB	UKAS: 8071
Bristol-SMD-BBG	Bristol Biochemical Genetics Department, Pathology Sciences Laboratory,	UKAS: 8071
	Southmead Hospital, Westbury-on-Trym, BRISTOL,BS10 5NB	
Bristol -SMD-IMM	Department of Immunology Southmead Hospital, Westbury-on Trym,BRISTOL,BS10 5NB	UKAS: 8067
Bristol-SMD-TOX	Toxicology Department, Pathology Sciences Laboratory, Blood Sciences & Bristol Genetics, Southmead Hospital,Westbury-on-Trym,BRISTOL,BS10 5NB	UKAS: 8071
Cambridge - Add	University Department of Clinical Biochemistry, Box 232,Level 4,Addenbrooke's Hospital, Hills Road, CAMBRIDGE,CB2 2QR	UKAS: 9814
Cardiff - CF14	Department of Medical Biochemistry,1st Floor Laboratory, University of Wales College of Medicine, CARDIFF, CF14 4XW	UKAS: 8989
Cardiff Porphyria Lab	Porphyria Lab, Department of Medical Biochemistry,1st Floor Laboratory, University of Wales College of Medicine, CARDIFF, CF14 4XW	UKAS 8989
Chalfont St Peter	National Society for Epilepsy, Therapeutic Drug Monitoring Unit,(NSE TDM),Chalfont Centre For Epilepsy, Chesham Lane, CHALFONT ST.PETER,SL9 0RJ	UKAS: 8353
Exeter - RDE	Department of Blood Sciences, Royal Devon and Exeter Hospital (Wonford)	UKAS: 8210
	Barrack Road	

	Exeter EX2 5DW	
Glasgow - QE	Neuroimmunology Laboratories, Queen Elizabeth University Hospital, Level 1B, Laboratory Medicine, 1345 Govan Road, GLASGOW, G51 4TF	UKAS 9713
Glasgow - Southern	Department of Neurology, Institute of Neurological Sciences, Southern General Hospital,1345 Govan Road, GLASGOW, SCOTLAND, G51 4TF	UKAS 8290
Guildford	Clinical Laboratory, Royal Surrey County Hospital, Egerton Road,GUILDFORD,SURREY,GU2 7XX	UKAS: 9732
Kettering Northants	Pathology Department, Kettering General Hospital, NHS Trust,KETTERING,NN16 8UZ	UKAS: 8118
Leeds	National Blood and Transplant.	UKAS: 8740
	Red Cell Immunohaematology.	
	NHS Blood and Transplant, Bridle Path, Leeds, LS15 7TW	
Liverpool	Royal Liverpool University Hospital, , LIVERPOOL, L7 8XP	UKAS: 9785
London-Bio lab	Bio lab Medical Unit, Weymouth Street, LONDON, W1W 6DB	Not accredited
London - Char X	The SAS Laboratories, Clinical Biochemistry and Medical Oncology, Charing Cross Hospital, Fulham Palace Road,LONDON,W6 8RF	UKAS: 8673
London - GOSH	Chemical Pathology, Camellia Botnar Building, 85 Lamb Conduit Street, GOSH NHS Trust, LONDON, WC1N 3JH	UKAS: 8692
London - Guys	Guy's and St. Thomas' Trust, Chemical Pathology Department,5th Floor, Guy's Tower, Guy's Hospital, St. Thomas Street, LONDON SE1 9RT	UKAS: 9093
London -Guys Purine	Purine Research Laboratory, Floor 5,Thomas Guy House, Guy's & St. Thomas' Hospital, London Bridge,LONDON,SE1 9RT	UKAS: 9093
London - ICH	The Enzyme Laboratory, Institute Of Child Health,30,Guildford Street,LONDON,WC1N 1EH	Not available
London-ILS	Institute of Liver Studies, Kings College Hospital, Denmark Hill,LONDON,SE5 9RS	Not available
London - Malarial Reference Laboratory	Malarial Reference Laboratory, London School of Hygiene and Tropical Medicine, Keppal St, LONDON, WC1E 7HT	UKAS: 9148
London - Queens Sq	Dept of Neuroimmunology	UKAS: 8045
	The National Hospital for Neurology and Neurosurgery, Institute of Neurology, Queens Square,LONDON,WC1N 3BG	
London St G	Dr Phil Rice, Institute of Microbiology and Virology, St George's Hospital, Blackstow Road,LONDON,SW17 OQT	UKAS: 9810
London St T	Nutristasis Unit, Haemostasis and Thrombosis, GSTS pathology,5th floor, North Wing, St.Thomas' Hospital,LONDON,SE1 7EH	UKAS: 8695

London TDL	The Halo Building 1 Mabledon Place LONDON WC1H 9AJ	UKAS: 8860 AMH is not credited.
London - Wellchild	Wellchild Lab,(1st floor), Children's Hospital, St. Thomas' Hospital, Lambeth Palace Road,LONDON,SE1 7EH	Not available
Manchester	Clinical Biochemistry, Clinical Sciences Building, Manchester Royal Infirmary, Oxford Road, MANCHESTER, M13 9WL	UKAS: 8651
Oxford - Churchill	Immunology Department, Churchill Hospital,Headington,OXFORD,OX3 7LJ	UKAS: 8782
Oxford - JR-BIO	Biochemistry Reception, Level 4,John Radcliffe Hospital,Headington,OXFORD,OX3 9DU	UKAS: 8202 / Haem tests are against UKAS: 8464
Oxford-JR-TVHMD	TVHMDS, Thames Valley, Haemato-Molecular Diagnostic Service, Level 4 John Radcliffe Hospital,OXFORD,OX3 9DS	UKAS: 8464
Penarth	Toxicology Laboratory, The Academic Centre, Llandough Hospital,PENARTH,CF64 2XX	Not accredit-ed
Salisbury	Wessex Regional Genetics Laboratory, Salisbury District Hospital,ODSTOCK,SALISBURY,SP2 8BJ	UKAS: 9005
Sheffield- CHI	Paediatric Pathology Section Of Neonatal Screening And Metabolic Investigation, Sheffield Children's Hospital, Western Bank, SHEFFIELD S10 2TH	UKAS: 8652
Sheffield-PRU	Sheffield Immunology and Protein Reference Unit, Department of Immunology, PO Box 894,SHEFFIELD,S5 7YT	UKAS ref: 8494
Southampton-CHE	Chemical Pathology, Southampton General Hospital, Tremona Road,SOUTHAMPTON,S016 6YD	UKAS 8483
Southampton-CHE	Chemical Pathology, Southampton General Hospital, Tremona Road, SOUTHAMPTON, S016 6YD	UKAS : 8483
Southampton-IMM	Wessex Immunology Department, Mailpoint 8, Level C, South Path & Lab Block Southampton General Hospital, Tremona Road,SOUTHAMPTON,S016 6YD	UKAS 8483
Southampton-IMM	Wessex Immunology Department, Mailpoint 8, Level C, South Path & Lab Block Southampton General Hospital, Tremona Road,SOUTHAMPTON,S016 6YD	UKAS ref: 8483
Southampton-IMM	Wessex Immunology Department, Mailpoint 8, Level C, South Path & Lab Block Southampton General Hospital, Tremona Road, SOUTHAMPTON, S016 6YD	UKAS ref: 8483

Table 11

15 PATIENT CONSENT DISCLOSURE

The Blood Sciences Department regards the lawful and correct treatment of patients' personal information as vital to successful operations and to maintaining the confidence of users of the service. Request form information may additionally be used for billing purposes, financial audit, resource management and utilization reviews. **The responsibility for obtaining informed consent for the test resides with the individual ordering the test not the laboratory.**

Our policy is that we will treat personal information lawfully and correctly in adherence to the principles of data protection described in the Data Protection Act 1998.

As part of the Great Western Hospital NHS Foundation Trust we also work to its governance and data protection policies which incorporate the Data Protection Act, the Department of Health Confidentiality NHS Code of Practice, and Department of Health Security Management NHS Code of Practise, as listed below:

- Information Governance Strategy and Policy
- Information Protection and Security Policy
- Information Asset Register Procedure
- Data Protection Policy
- Data Transfer Policy
- Data Quality Policy
- Code of Conduct for Employees in Respect of Confidentiality Policy
- Freedom of Information Requests Procedure

Trust documents are currently on the T Drive in the Trust – for users outside the Trust please contact the laboratory if a copy of the policy is required.

- The Consent for Medical Treatment for All Patients at the Great Western Hospitals Policy is available in the Trust please advise the Lab Manager if you should require a copy

All the above Trust policy documentation is available upon request to the Blood Sciences Laboratory Manager on 01793 607242

The responsibility for obtaining informed consent for the test resides with the individual ordering the test not the laboratory.

15.1 Patient consent

Consent to a specimen being taken and analysed is implied by the patient presenting to the point of specimen collection. **The responsibility for obtaining informed consent for the test resides with the individual ordering the test not the laboratory**. Informed consent should cover all the tests being done, implications of their results and disclosure of clinical and personal details to

personnel (in the requesting organisation and any other healthcare organisations involved in providing the test). Special procedures, including more invasive procedures, or those with an increased risk of complications to the procedure, will need a more detailed explanation and, in some cases, written consent.

Patients with due capacity in a hospital bed should normally be given the opportunity to refuse testing. In emergency situations consent may not be possible.

All patient samples received in the laboratory shall be treated with respect whilst in the care of the Blood Sciences Department.

15.2 Medico-legal samples

The laboratory is geared primarily for Clinical Investigation of patients. Handling over two thousand specimens each weekday in a timely, cost efficient way does not usually facilitate the additional formal concerns of medico-legal casework such as having a fully documented chain of custody.

Should you have a particular requirement please talk to the Blood Sciences Laboratory Manager on 01793 607242.

15.3 The Human Tissue Act and Forensic Work

Great Western Hospitals NHS Foundation Trust is licensed by the Human Tissue Act (HTA) to undertake examinations of post mortem samples submitted by clinical consultants and pathologists. Under the license, the samples may be retained until the examination has been completed and in line with the sample retention policies.

It is the obligation of the requesting clinician or pathologist to ensure that examination of samples they submit have been requested by the coroner or appropriate consent has been obtained from the deceased person or their relatives.

Only the specific examinations requested by the sending clinician or pathologist may be performed. It must be assumed that the coroner has not asked for any other examinations to be performed and consent has not been obtained for any other work and so this would be outside the scope of the licence.

All relevant material is stored securely and under conditions which maintain the integrity of the sample if possible and confidentiality is maintained in compliance with Caldicott principles, as are all samples received. Following processing, relevant material is only retained for the period of time specified by the retention policy.

16 Duty of Candour Policy

Blood Sciences as per the Trust Policy (PAT-EX-450) is committed to a safety culture dedicated to learning and improving care and striving to reduce avoidable harm. Being open and honest about patients' or service users' treatment and care is of a high priority, ensuring we all promote good relationships with patients and their families or carers.

• The Care Quality Commission (CQC) Regulation puts a legal duty on all health and social care providers to be open and transparent with people using services, and their families, in relation to their treatment and care. This means that providers must be open and transparent with people who use services and other 'relevant persons' (people acting lawfully on their behalf) in relation to care and treatment. It sets out specific requirements that providers must follow when things go wrong with care and treatment, including informing people about the incident, providing reasonable support, and providing truthful information and an apology when things go wrong.
• Notifiable Safety Incident
• Incidents that result in no harm or low harm are not part of the Statutory Duty of Candour legislative requirements, but patients should still be informed of such events in line with being open and honest. This is called the Non-Statutory Duty of Candour.

All incidents involved Blood Sciences shall be reported on Datix or as non-conformance or both.

17 FEEDBACK ON BLOOD SCIENCES SERVICE AND COMPLAINTS PROCEDURE

We are always keen to receive any comments you may have about the quality of our service and would welcome any suggestions on ways we might be able to improve our service. Any compliments, concerns, comments or complaints should in the first instance be directed to the Blood Sciences Laboratory Manager or the Clinical Lead for the relevant laboratory.

The Laboratory Complaints Procedure is described in Document: Pathology User Engagement Policy, Including Management of Complaints (Laboratory Document PAT-Q-043) which describes Departmental arrangements to comply with the Trust Complaints Policy ((Laboratory Document PAT-EX-229)

This Trust has a Patient Advice and Liaison Service (PALS) and they can be contacted as below:

You can visit the team on the ground floor of the Great Western Hospital (the PALS office). Their offices are open Monday-Friday, from 8.30am-5pm.

Tel: 01793 604031

Email: GWHPALS@NHS.NET

Any comment or idea from users on how this user guide could be improved would be welcomed for inclusion in future editions. Please forward suggestions to the Blood Sciences Laboratory Manager.