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NOTES:

- Test repertoire detailed in this Tests Requirements Manual includes relevant sample information and turnaround times for tests performed on site and for tests sent to other laboratories in Ireland and abroad. Turnaround times represent the average time between **sample receipt** in the Laboratory and result reporting i.e. validation and availability of results on the LIS (iLAB). Turnaround times quoted in days are based on routine working week (Mon-Fri).
- Information relating to routine laboratory investigations is printed on the back of the Request Form.
- For further information, clinicians can contact the relevant DPLM Department or Specimen Reception
 - Clinicians should try to avoid frequent and unnecessary repeat testing. This can result in unnecessary phlebotomy events for children and waste appointments, create difficulty for parents in attending these appointments and also waste hospital resources. If clinicians wish to receive more information regarding frequency of repeat testing that is recommended for a particular test, they should contact the relevant laboratory or consultant
- For many referred investigations the Hospital will receive an invoice. Clinicians may therefore be requested to justify such investigations and complete a separate individual request form.
- Urgent samples and critical results are handled according to departmental procedures.
- Tests within the scope of INAB accreditation to ISO15189 are listed on the INAB website.
- Internal tests not within the scope of INAB accreditation are marked with**

Please refer to other laboratory guides as required (on TempleNet, Q-Pulse and Clinical Portal)

- Blood Order of Draw (LI-GEN-0023)
- Quick Guide to Laboratory Sensitive Samples (LI-GEN-0041)
- Microbiology Swab Guide (LI-MICRO-0061)

Tests are listed in alphabetical order. To search for a particular test, press CTRL+F and enter your search term

1. Test Repertoire

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
11 Deoxycortisol	Blood	Serum	1.2ml	3 wks	Kings College Hospital, London	Biochemistry	
16S PCR & Pathogen Specific PCR	Sterile Fluid / tissue	Sterile Container		4 weeks	GOSH	Microbiology	
17- Hydroxyprogesterone	Blood	Serum	1.2ml	3 wks	CHI at Crumlin	Biochemistry	Serum preferred sample.
17-OH Progesterone (Dried Bloodspot Card)	Blood	Dried Blood Spot Card	4 spots	4-6wks	Southampton General Hospital	Biochemistry	Dried bloodspot card- 4 spots 1. Before morning steroid dose 2. Between 11.00 and 13.00 3. Between 15.00 and 19.00 4. Before night steroid dose. On the day of collection, samples can be stored at 40C but should be frozen at -200C for longer periods. Send out at ambient temperature.
7 - Dehydrocholesterol & 8 - Dehydrocholesterol	Blood	Lithium Heparin	1.2ml	4 - 8wks	Sheffield Children's Hospital	Biochemistry	Diagnosis of Smith-Lemli-Opitz syndrome. Cholesterol monitoring of SLO to be carried out using GCMS. Enzymatic method cross-reacts with 7- and 8-DHC.
ABO Antibody titres	Blood	4.5mL Red label EDTA KE for blood transfusion only	4.5 ml	2 wks	IBTS	Blood Transfusion	
Abscess swab C/S	Abscess swab	Transport	N/A	48-96 hrs	CHI at Temple	Microbiology	Transport to laboratory

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		swab			Street		immediately. Store samples at 4° C if delay in transportation
Acetyl Choline Receptor Antibodies / Motor endplate antibodies	Blood	Serum	1.2ml	3 wks	Oxford University Hospital (Churchill)	Immunology	
ACTH	Blood	EDTA	1.2 mL	3 wks	SVUH	Biochemistry	STAT to lab. Must be spun within 20 mins
Activated protein C resistance (APCR)	Blood	Sodium citrate	1.4 mL x 2	Batch tested monthly	CHI at Crumlin	Haematology	
Acylcarnitines (Dried Bloodspot)	Blood	Dried Blood Spot Card	2 full circles	2-28 days	CHI at Temple Street	Metabolic Laboratory	Airdry for 2 hrs. Avoid heat & humidity. Acylcarnitine profiling is always accompanied by urine for organic acids. Clinical details required for interpretation and appropriate follow-up. Samples are batched and usually analysed 1-2 times per week. Urgent requests MUST be made before 09.30 and discussed with Metabolic lab on ext 4458. Plasma is preferred sample type if CPTII/CACT deficiency clinically suspected. Discuss with Metabolic lab ext 4458
Acylcarnitines (plasma)	Blood	Lithium Heparin	1.2 mL	4 weeks	Sheffield Children's Hospital	Metabolic Laboratory	May be requested on the same sample as total and free carnitine. Full clinical details required for interpretations. Suggest send in addition to

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							Dried Bloodspot acylcarnitine profile if CPTII/CACT deficiency is clinically suspected.
ADAMTS-13 Genotype	Blood	Sodium citrate	5 mL	4 wks	HSL, London	Haematology	Must be accompanied by HSL request form. Please discuss with consultant Haematologist
ADAMTS-13 Protease (Activity / Antigen / Antibodies)	Blood	Sodium citrate	5 mL	4 wks	HSL, London	Haematology	Must be accompanied by HSL request form. Please discuss with consultant Haematologist
Adenosine deaminase / ADA	Blood Urine	EDTA	4 mL 5 ml	4 wks	Laboratorium Erfelijke Metabole Ziekten, Maastricht	Metabolic Laboratory	
Adenovirus PCR	Blood CSF	EDTA CSF tube	1.2ml	8 days	NVRL	Microbiology	Clinician must contact NVRL if urgent.
Adrenal Antibodies	Blood	Serum	1.2ml	2 wks	Birmingham Heartlands Hospital	Immunology	
AFB (Acid Fast Bacilli)	Sample type depends on site of suspected infection.	Universal container		2 wks	Mater Misericordiae University Hospital (MMUH)	Microbiology	
AFP Alpha-fetoprotein -Blood	Blood	Lithium Heparin / Serum	1.2ml	2 wks. Contact lab for urgent requests	CHI at Crumlin	Biochemistry	
AFP Alpha-fetoprotein - CSF	Blood CSF	Serum CSF tube	4 mL 1 mL	Contact referral laboratory	Charing Cross Hospital, London	Biochemistry	Minium 0.5 ml CSF required
Alanine Aminotransferase (ALT)**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Albumin Creatinine Ratio Microalbuminuria	Urine (spot)	Universal container		1 wk	CHI at Crumlin	Biochemistry	If two samples received taken over 2 days, specify if clear which sample was taken on which day
Albumin**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Avoid venous stasis as this may affect calcium measurement ** Test not accredited; this does not invalidate the results
Alcohol BLOOD	Blood	Fluoride	1.2ml	1 wk	Beaumont	Toxicology	
Alcohol URINE	Urine (spot)	Universal container		1 wk	Eurofins Biomnis	Biochemistry	
Aldolase	Blood	Serum	1.2ml		Eurofins Biomnis	Biochemistry	
Aldosterone	Blood	EDTA	2 mL	3 wks	Charing Cross Hospital, London	Biochemistry	
Alkaline Phosphatase (ALP) Isoenzymes	Blood	Lithium Heparin / Serum	1.2ml	6 wks	Charing Cross Hospital, London	Biochemistry	
Alkaline Phosphatase (ALP)**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Allergy Screening	Blood	Serum	3-5ml		CHI at Crumlin, Eurofins Biomnis	Biochemistry	All Allergy requests from non allergy consultants and GPs will be reviewed by the Allergy Team in Temple St. See User Manual for list of available allergens
Allopurinol	Urine	Sterile container	5ml	4 wks	Laboratorium Erfelijke Metabole Ziekten,	Metabolic Laboratory	Please contact Metabolic Unit for the protocol. Take baseline urine sample before administering allopurinol.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
					Maastricht		Collect urine from 0hrs-8hrs, 8hrs -16hrs and 16hrs - 24 hrs in a three 24 hour containers
Alpha 1 Antitrypsin level	Blood	Serum	1.2ml	3 wks	Beaumont	Biochemistry	
Alpha 1 Antitrypsin level-FAECES	Faeces	Universal container	100 mg (min)	Contact referral laboratory	St George's Hospital, London	Biochemistry	
Alpha 1 Antitrypsin Phenotype PI typing.	Blood	Serum	1.2ml	3 wks	Beaumont	Biochemistry	
Alpha Globin Gene Studies (AGGS)	Blood	EDTA	2.7 mL	4 wks	Kings College Hospital, London	Haematology	
Alpha Iduronidase	Blood	EDTA	4 mL	3 wks	St Mary's Hospital Manchester	Metabolic Laboratory	Cannot be taken on Fridays
Alpha Interferon - Blood	Blood	Serum	1.2ml	Contact referral laboratory	Hopital Cochin	Biochemistry	
Alpha Interferon- CSF	CSF	CSF tube	0.5 mL (min)	Contact referral laboratory	Hopital Cochin	Biochemistry	
Alpha2 Anti Plasmin Assay	Blood	Sodium citrate	Discuss volume required with Consultant Haematologist 2x 3mls	Contact referral laboratory	Royal Free Hospital, London	Haematology	Bring sample immediately to lab directly after venopuncture.
Aluminium	Blood	Metal free / Lithium Heparin Trace metal analysis tube	3 mL	4 wks	Public Analyst's Laboratory	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Amikacin (TROUGH, PEAK, RANDOM)	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Microbiology	Take peak & trough levels
Amino acids	Blood	Lithium Heparin	1.2 mL	1-14 days	CHI at Temple Street	Metabolic Laboratory	Clinical details MUST be required for interpretation and appropriate follow-up. State whether fasting of post prandial. If fasting, state length of fast. As a temporary measure from 12th august we are only receiving and analysing Priority analysis only. Critical samples received with acute clinical details (hyperammonemia, lactic acidosis, metabolic acidosis, hepatomegaly, unexplained seizures, encephalopathy, hypoglycaemia) and plasma samples from babies <2y and patients known to the Metabolic Unit will not be affected by these changes.
Amino acids	CSF	Fluoride	200 µL	1-10 days	CHI at Temple Street	Metabolic Laboratory	Clinical details must be supplied for interpretation and appropriate follow-up
Amino acids	Urine	Universal container	5 mL	2-21days	CHI at Temple Street	Metabolic Laboratory	Fresh urine required. Will only be analysed when clinical warranted (e.g. suspected tubulopathy, stone formation,

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							or cystinuria). Clinical details must be provided for interpretations and appropriate follow-up. FOR REFERRING LABS:Urine pH should be measured. Where the pH≥8.5, microbial contamination is suspected, continue to dispatch urine sample to CHI at Temple Street and please request a repeat urine sample on the patient.
Amino acids (Branched chain) (Leu, Ile, Val, Aile) by LC-MS/MS**	Blood	Lithium Heparin ONLY	0.5 - 1.2ml	1-2 days	CHI at Temple Street	Metabolic Laboratory	Clinical details required for interpretation and appropriate follow-up. State whether fasting of post prandial. If fasting, state length of fast. Batch analysis - samples for MSUD monitoring must arrive by 10:30am ** Test not accredited; this does not invalidate the results
Amino acids (Met) by LC-MS/MS**	Blood	Lithium Heparin ONLY	0.5 - 1.2ml	1-2 days	CHI at Temple Street	Metabolic Laboratory	Clinical details required for interpretation and appropriate follow-up. Batch analysis - samples for FHx HCU must arrive by 10:30am ** Test not accredited; this

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							does not invalidate the results
Amino acids (Phe/Tyr) by LC-MS/MS**	Blood	Lithium Heparin ONLY	0.5 - 1.2ml	1-2 days	CHI at Temple Street	Metabolic Laboratory	Clinical details required for interpretation and appropriate follow-up. Batch analysis - samples for Maternal PKU monitoring and FHx PKU must arrive by 10:30am ** Test not accredited; this does not invalidate the results
Aminophylline / Theophylline	Blood	Lithium Heparin / Serum	1.2ml	1 wk	Beaumont	Toxicology	May be difficult to interpret in newborn due to interconversion with xanthine
Ammonia**	Blood	Lithium Heparin	1.2 mL	2 hrs	CHI at Temple Street	Biochemistry	Avoid haemolysis and venous stasis. Send to lab STAT ** Test not accredited; this does not invalidate the results
AMPA antibodies	Blood	Serum	1.2ml	4 wks	Oxford University Hospital (Churchill)	Immunology	
Amphotericin levels	Blood	Serum	1.2ml	Contact referral laboratory	Public Health England South West Laboratory	Microbiology	
Amylase (Urinary)	Urine (spot)	Universal container		Contact referral laboratory	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Amylase **	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Amyloid A	Blood	Serum	1.2ml	Contact referral	Royal Free Hospital, London	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				laboratory			
Androstenedione	Blood	Serum	3 mL	2 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Angiotensin Converting Enzyme (ACE) - BLOOD	Blood	Serum	1.2ml	1 wk	SVUH	Biochemistry	
Angiotensin Converting Enzyme (ACE) - CSF	CSF	CSF tube	1 mL	3 wks	National Hospital for Neurology & Neurosurgery, London	Metabolic Laboratory	
Anti A or B antibody titres	Blood	4.5mL Red label EDTA KE for blood transfusion only	4.5 ml	Contact referral laboratory	IBTS	Blood Transfusion	Must be labelled with label from the PDA (no addressograph or stickers from the patients chart accepted). Form accompanying the sample must be a fully completed Blood Transfusion Request Form.
Anti DNAase B. Titres	Blood	Serum	1.2ml	21 days	Southmead Hospital, Bristol	Microbiology	
Anti Factor Xa / Factor 10a**	Blood	Sodium citrate	1.4 mL	1 day	CHI at Temple St	Haematology	Samples for Anti Factor Xa should be taken 4 hours after the last dose of Innohep. Send fresh same day. ** Test not accredited; this does not invalidate the results
Anti GQIb Antibodies / GM1 antibodies / Ganglioside antibodies	Blood	Serum	1.2 mL	5 wks	Oxford University Hospital (Churchill)	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Anti Mullerian hormone AMH	Blood	Serum	3 mL	4 wks	GOSH	Biochemistry	
Anti neuronal antibodies / Anti-neurofilament Antibodies	Blood	Serum	2 mL	Contact referral laboratory	Northern General Hospital, Sheffield	Immunology	Assay includes Purkinje cell cytoplasm (APCA1: anti-'Yo') and Neuronal nuclei (ANNA1; anti-'Hu')
Anti Neutrophil Antibodies	Blood	Serum	5 mL	4 wks	NBS Centre, Bristol	H&I Lab	Special request form required
Anti Nuclear Antibodies (ANA) / Anti Nuclear Factor (ANF)	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Anti Nuclear Cytoplasmic Antibodies (ANCA).C- ANCA. P- ANCA	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Anti phospholipid antibodies	Blood	Serum	1.2ml	Contact referral laboratory	Mater Misericordiae University Hospital (MMUH)	Immunology	
Anti Thyroid-Microsomal antibodies	Blood	Serum	1.2ml	1 wk	Mater Misericordiae University Hospital (MMUH)	Immunology	
Antibody Investigation	Blood	4.5mL Red label EDTA KE for blood transfusion only	min 2 mL	Dependent on antibody complexity	CHI at Temple Street (Routine Hours) IBTS (Out of Hours)	Blood Transfusion	Please use PDA to label form and sample.
Antithrombin III	Blood	Sodium citrate	1.4 mL x 2	1 month	CHI at Crumlin	Haematology	
Apolipoprotein A / Lipoprotein	Blood	Serum	1.2ml	Contact	Eurofins Biomnis	Biochemistry	Separate & send

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
A				referral laboratory			
Apolipoprotein B	Blood	Serum	1.2ml	Contact referral laboratory	Eurofins Biomnis	Biochemistry	Separate & send
APTT (activated partial thromboplastin time)**	Blood	Sodium citrate	1.4 mL	2 hrs	CHI at Temple Street	Haematology	<p>Samples must be filled to the line marked on the side of the tube. Overfilled or underfilled samples will give inaccurate results and will not be analysed.</p> <p>Test must be performed within 2-4 hours of the sample being taken.</p> <p>If patient is on heparin therapy, samples must be centrifuged within 1 hour of the sample being taken and the plasma must be tested within 2 hours of sample being taken</p> <p>Interferences: clots in the sample, heparin.</p> <p>** Test not accredited; this does not invalidate the results</p>
Arsenic - Blood	Blood	Lithium Heparin	3ml	3 wks	Eurofins Biomnis	Biochemistry	
Arsenic - Urine	Urine	Universal	10ml	2 wks	Eurofins Biomnis	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		container					
Arterial line/tip C/S	Arterial line/tip	Sterile universal	Total sample	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Ascitic Fluid C/S	Ascitic fluid	Sterile universal	2-5 mL	48-96 hrs	CHI at Temple Street	Microbiology	Transport to laboratory immediately. Store samples at 4°C if delay in transportation Do not refrigerate.
ASOT Anti Streptolysin O Titre	Blood	Serum	1.2ml		Eurofins Biomnis	Microbiology	
Aspartate Aminotransferase (AST)**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Aspergillus Identification (PCR)	Respiratory specimen	Sterile container		1 wk	CHI at Crumlin	Microbiology	
Aspergillus precipitins (IgG)	Blood	Serum	1.2ml	2 wks	Northern General Hospital, Sheffield	Immunology	
Autoimmune Neutropenia	Blood	Serum	6 mL	3 wks	NHS Blood & Transplant	Haematology	
Autoimmune thrombocytopaenia	Blood	EDTA & Serum	18 mL (EDTA) 6 mL (Serum)		NHS Blood & Transplant	Haematology	Discuss with Consultant Haematologist. Refer to http://hospital.blood.co.uk/media/27703/frm999-hi-request-form-3d-platelet-immunology.pdf for request form and further information.
B2 GP1 (B2 Glycoprotein) antibodies	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
B2 Microglobulin (Blood)	Blood	Serum	1.2ml	10 days	Mater Misericordiae University Hospital (MMUH)	Immunology	
B2 Microglobulin (Urine)	Urine (spot)	Universal container	5mL	1 wk	Northern General Hospital, Sheffield	Immunology	
BAL Fungal culture	BAL	Sterile universal	Total sample	10 days	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Bartonella / Cat scratch	Blood	Serum	1.2ml	4 wks	Eurofins Biomnis	Microbiology	
Basal Ganglia Antibodies	Blood	Serum	1.2ml	3 wks	Institute of Neurology, London	Immunology	
Beta 2 Transferrin, Tau Protein	Fluids suspected of containing CSF	Universal container	100 µL	Contact referral laboratory	St George's Hospital, London	Biochemistry	
Beta D Glucan	Blood CSF	Serum	2.7ml	Contact referral laboratory	SJH	Microbiology	1-3 Beta-d-glucan is a panfungal marker which is a useful adjuvant to the diagnosis of invasive candidiasis/Invasive fungal disease. The following sample conditions may interfere with an accurate assay result: haemolysis, turbid/lipemic samples, the presence of bilirubin in the serum or elevated levels of IgG such as those found in multiple

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							myeloma. Results should be interpreted in collaboration/discussion with a medical microbiologist. Please allow 3 days before repeat sampling. Specimens taken on consecutive days will not all be tested.
Beta Globin Gene Studies (BGGs)	Blood	EDTA	2.7 mL	4 wks	Kings College Hospital, London	Haematology	Send FBC report with sample for interpretation of the genotype/phenotype relationship.
Beta Thalassaemia Mutation	Blood	EDTA	Adult (16 years and above) 10-15 mls Children (2-15 years) 5 mls Infants (0-2 years) 2 mls	4 wks	Kings College Hospital, London	Haematology	Presence of heparin anticoagulant will inhibit PCR applications. Clotted samples are unsuitable for DNA analysis. Samples must be clearly labelled with the patient's first name, surname, D.O.B, hospital number and the date the sample was taken. The details on the sample must correspond to the request form.
Beutler (Supplementary screening for Classical Galactosaemia)	Blood	Dried Blood Spot Card	Fill at least 2 circles completely	1-2 days (Mon-Sat)	CHI at Temple Street	NNBSL	Red cell transfusion invalidates results. Air dry sample for at least 2

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							hrs prior to transport. Do not use latex gloves. Avoid heat & humidity Samples received in the laboratory before 12.00 Mon-Fri are analysed that day. For further information, visit www.newbornscreening.ie
B-HCG (Blood)	Blood	Serum	1 mL	1 wk, (contact lab for urgent requests)	SVUH	Biochemistry	
B-HCG (Urine)	Urine	Universal container	4 - 10 mL	Contact referral laboratory	Rotunda	Biochemistry	
B-HCG (CSF)	CSF & Blood	Serum CSF tube	1 mL CSF / 4 mL clotted	Contact referral laboratory	Charing Cross Hospital, London	Biochemistry	
Bile Acids / Bile Salts (PLASMA)	Blood	Lithium Heparin	1.2ml	5 wks	Sheffield Children's Hospital	Biochemistry	Do not expose to light.
Bile Acids / Bile Salts (URINE)	Urine (fresh)	Universal container	5 - 10 mL	5 wks	Sheffield Children's Hospital	Biochemistry	
Bile Fluid C/S	Bile fluid	Sterile universal	2-5 mL	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Bilirubin (Conjugated)**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Send to lab STAT ** Test not accredited; this

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							does not invalidate the results
Bilirubin (Total)**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Send to lab STAT ** Test not accredited; this does not invalidate the results
Biopterin/ DHPR	Blood	Dried Blood Spot Card	5 circles (min) An extra spot of blood can be dropped outside the circles in the corner of the card.	5 wks	Birmingham Children's Hospital	NNBSL	Complete patient details. Investigation performed on ALL new cases of PKU to confirm Classical PKU Plasma sample no longer accepted
Biotinidase [Biotin]	Blood	Lithium Heparin	1 mL	4 wks	Sheffield Children's Hospital	Biochemistry	
BK Virus	Blood Urine	EDTA or Serum AND Sterile universal	1.2 mL	8 days	NVRL	Microbiology	Store at 4 °C if delay in transportation to the laboratory
Blood Culture C/S**	Blood	Paediatric aerobic (yellow) bottle AND Anaerobic bottle	Neonate: 1 mL < 2yrs: 4 mL >2 yrs: 4 mL > 2yrs: 5-10 mL NOTE: smaller volumes can be used, but recovery may be	Negative BC: 5 days Positive BC: 5-10 days	CHI at Temple Street	Microbiology	** Test is not accredited Blood culture bottles must be brought to Microbiology ASAP. Out of hours, please deliver to the Haematology lab. Do not refrigerate. Please record on the request form the amount of blood

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
			compromised				inoculated into each bottle. Indicate site/source
Blood Gases (arterial)**	Blood	safePICO Arterial Blood Sampler Aspirator	1 .5 mL	15 mins	CHI at Temple Street	Biochemistry	Bring specimen to laboratory for immediate analysis. Do not sent via Pneumatic Tube System (PTS) ** Test not accredited; this does not invalidate the results
Blood Gases (venous)**	Blood	safePICO Arterial Blood Sampler Aspirator	1 .5 mL	15 mins	CHI at Temple Street	Biochemistry	Bring specimen to laboratory for immediate analysis. Do not sent via Pneumatic Tube System (PTS) ** Test not accredited; this does not invalidate the results
BNP	Blood	EDTA	1.2ml	1 wk	Mater Misericordiae University Hospital (MMUH)	Biochemistry	Replaced by NT Pro BNP for Covid patients and ?PIMS patients
Bone Biomarkers - BLOOD (Includes : 25(OH)VitD, Parathyroid Hormone, Osteocalcin (Intact) , N- terminal Procollagen I (P1NP), Bone Alkaline Phosphatase)	Blood	Serum	10 mL	4 - 6 wks	SVUH	Metabolic Laboratory	Includes : 25(OH)VitD, Parathyroid Hormone, Osteocalcin (Intact) , N- terminal Procollagen I (P1NP), Bone Alkaline Phosphatase
Bone Biomarkers - URINE (Includes: N- Telopeptides	2nd Void urine in morning.	Universal container	Collect full amount of urine passed	4 - 6 wks	SVUH	Metabolic Laboratory	Includes: N- Telopeptides NTX

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
NTX)							
Bone Marrow Cytogenetic (Karyotyping) - BONE MARROW	Bone Marrow	RPMI medium	Contact NCMG or Consultant Haematologist for specimen requirements.	Contact referral laboratory	CHI at Crumlin	Genetics	Refer to Consultant Haematologist. Arrange through Haematology. For sample referral purposes, 3 unique patient identifiers are required by NCMG: 1)Forename, Surname 2)Date of Birth 3) Hospital No.
Bone Marrow Cytogenetic (Karyotyping) - BLOOD	Blood	EDTA	Contact NCMG or Consultant Haematologist for specimen requirements.	Contact referral laboratory	CHI at Crumlin	Genetics	Refer to Consultant Haematologist. Arrange through Haematology. For sample referral purposes, 3 unique patient identifiers are required by NCMG: 1)Forename, Surname 2)Date of Birth 3) Hospital No.
Bone Marrow Trephine Biopsy	Bone Marrow	In 10% formalin	N/A	3-7 days	CHI at Crumlin	Histology	If special stains or immunohistochemistry (external test) required, turnaround time is 10-14 days
Bordetella pertussis PCR	Pernasal swab	Perinasal swab (available from the laboratory)	N/A	8 days	CHI at Crumlin	Microbiology	Swab available from Micro Lab. Store sample at 4°C if delay in transportation to the laboratory
Bordetella pertussis Antibodies	Blood	Serum	3 mL	1 wk	CHI at Crumlin	Microbiology	Check with Micro before sending
Bordetella pertussis C/S	Perinasal swab	Perinasal swab	N/A	7 days (min)	CHI at Temple	Microbiology	Store samples at 4° C if delay

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
(Whooping cough)		(available from the laboratory)			Street		in transportation to the laboratory After culture, sample is sent to CHI at Crumlin for PCR testing
Borrelia Burgdoferi (Lyme disease)	Blood	Serum	3 mL	8 days	NVRL	Microbiology	If positive VRL will send sample to UK.
Botulinum Toxin (For Laboratory ONLY)	Faeces may be required in cooked meat broth. Contact Micro Consultant or Reg to discuss sample type.	Faeces may be required in cooked meat broth. Contact Micro Consultant or Reg to discuss sample type.	Faeces may be required in cooked meat broth. Contact Micro Consultant or Reg to discuss sample type.	Contact referral laboratory	HPA Colindale	Microbiology	Send by arrangement only. Discuss transport cost (Biomnis COURIER) with Micro Chief Medical Scientist, Consultant or Reg
Bronchial Aspirate C/S	Bronchial aspirate	Sterile universal	Total sample	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Bronchial Brushings C/S	Bronchial brushings	Sterile universal	Total sample	48-96 hrs	CHI at Temple Street	Microbiology	
Bronchoalveolar Lavage C/S	BAL	Sterile universal	Total sample	48-96 hrs	CHI at Temple Street	Microbiology	Gram stain report available electronically same day
Brucella Antibodies	Blood	Serum	1.2ml	21 days	Royal Liverpool & Broadgreen University Hospital	Microbiology	
C Peptide	Blood	Serum / EDTA	1.2ml	2 wks	Royal Devon and Exeter Hospital	Immunology	
C. difficile PCR	Faeces	Sterile container	Representative sample	Up to 7 days	Rotunda	Microbiology	Testing for <i>C.difficile</i> should only be requested on stools from children with diarrhoea if

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							<p>- the diarrhoea is associated with current or recent antibiotic exposure (particularly broad spectrum antibiotics, such as 2nd or 3rd generation cephalosporins or</p> <p>- the diarrhoea is associated with a known risk factor, such as Hirschsprung's disease, exacerbation of inflammatory bowel disease or cancer chemotherapy and</p> <p>- other causes of diarrhoea have been ruled out</p> <p>- specimen is liquid stools</p> <p>Please do not request <i>C.difficile</i> testing on children < 2 yrs in whom the organism is a normal commensal and highly unlikely to cause disease.</p> <p>Request forms must therefore include the appropriate clinical details Formed specimens will not be tested</p>

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							Store samples at 4° C if delay in transportation to the laboratory
C₁ esterase inhibitor / C1 ESTERASE	Blood	Serum	1.2ml	2 wks	Northern General Hospital, Sheffield	Immunology	
C1q Levels / C1q Antibody Level	Blood	Serum	1.2ml	2-4 wks	Northern General Hospital, Sheffield	Immunology	
CA125 / CA19-9 / CA15-3	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Calcitonin	Blood	Serum	3 mL	3 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Calcitriol / 1,25-dihydroxyvitamin D / 1,25-VitD	Blood	Serum	2-3 mL	up to 2 months	Norfolk & Norwich University	Metabolic Laboratory	
Calcium (Ionised)**	Blood	safePICO Arterial Blood Sampler Aspirator	1.5 mL	1 hr	CHI at Temple Street	Biochemistry	Bring to lab for immediate analysis. ** Test not accredited; this does not invalidate the results
Calcium (Total)**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Calcium (Urine)**	Urine (spot)	Universal container	2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Calcium / Creatinine Ratio**	Urine (spot or 24 hr urine collection)	Universal or 24 hour container	1.2 mL (spot)	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Calprotectin	Stool	Universal container	20g	2 wks	Eurofins Biomnis	Biochemistry	
CAMP / Cyclic Adenosine Monophosphate	Urine	Universal Secondary Container	5 ml		Norfolk & Norwich University	Biochemistry	
Campylobacter serology	Blood	Serum	1.2ml	Contact referral laboratory	Eurofins Biomnis	Microbiology	
Candida antibodies	Blood	Serum	3 mL	2 wks	Public Health England South West Laboratory	Microbiology	
Candida antigen	Blood	Serum	3ml	2wks	Public Health England South West Laboratory	Microbiology	Susceptibility testing - Microbiology in CHI at Crumlin may test by prior arrangement
Candida PCR	Blood	EDTA	1.6 mL	Contact referral laboratory	Medical Microbiology Partnership	Microbiology	
Carbamazepine (Tegretol)	Blood	Serum	1.2 mL	2 hr	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Carbohydrate Deficient Transferrin CDT	Blood	Serum	2ml		Eurofins Biomnis	Biochemistry	Occ Health only
Carboxyhaemoglobin (Carbon Monoxide)**	Blood	safePICO Arterial Blood Sampler Aspirator	1 .5 mL	15 mins	CHI at Temple Street	Biochemistry	Bring to lab for immediate analysis. Do not send by pneumatic tube system ** Test not accredited; this does not invalidate the results
Carcinoid Tumour screen (5-HIAA)	Urine (spot)	Universal container	5ml	3 wks	Beaumont	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Cardiolipin antibodies	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	Separate & send
Carnitine (Free) - urine	Urine	Universal container	3 mL	4-8wks	Sheffield Children's Hospital	Biochemistry	
Carotene Beta	Blood	Lithium Heparin	1.2ml	Contact referral laboratory	Birmingham City Hospital	Biochemistry	Protect from light
CASPR2 antibodies	Blood	Serum	1.2ml	4 wks	Oxford University Hospital (Churchill)	Immunology	
Catecholamines BLOOD	Blood	EDTA	5 mL	2-4 wks	Eurofins Biomnis	Biochemistry	
Catecholamines URINE (includes noradrenaline, adrenaline, dopamine, HMMA (VMA), HVA)	Urine (spot)	Universal container	2 mL	Same day for urgent samples - contact lab. 3 wks for routine.	Beaumont	Biochemistry	Must be received in CHI at Temple Street Lab soon after collection. If 24hr collection is requested clinician MUST discuss with referral lab before collection. Must be collected into container pre prepared with sufficient 50% (6 molar) HCL.
CCP (Cyclic Citrullinated Peptide)	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
CD19	Blood	EDTA	2.7 mL	1 wk	CHI at Crumlin	Haematology	
CEA	Blood	Serum	1.2ml	1 wk	SVUH	Biochemistry	
Central Line C/S	Central line tip	Sterile	Total sample	48-96 hrs	CHI at Temple	Microbiology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		universal			Street		
Cerebrospinal Fluid (CSF) C/S, microscopy, gram, differential WBC if indicated	CSF	CSF tube Fluoride	1.5 mL (min) 0.15 mL	Cell count phoned ASAP Final report: 48-96 hrs	CHI at Temple Street	Microbiology	<p>Cell count not phoned for neurosurgery patients unless specifically requested.</p> <p>Gram stain only performed on call if WCC>5.</p> <p>Collect sequentially into 3 or more separate containers. In the event of insufficient sample, tests required will be prioritised by the requesting clinician. Collection into fluoride EDTA is recommended.</p> <p>Transport to the laboratory immediately. DO NOT REFRIGERATE prior to culture. Hand to Medical Scientist during routine working hours. Contact Medical Scientist on call out of hours.</p> <p>Requests for PCR or viral studies must be accompanied by separate request forms.</p>
Ceruloplasmin	Blood	Serum	1.2ml	2 wks	Northern General Hospital, Sheffield	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Cervical Swab C/S	Cervical swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	This is not an appropriate sample before puberty. Take a vaginal swab.
CF Sputum for TB and Non TB Mycobacterium	Sputum	Sterile container	Representative sample	up to 8 weeks	Mater Misericordiae University Hospital (MMUH)	Microbiology	Early morning sample desirable
CH100 (classical and alternative pathways), Total Complement Profile, AH50	Blood	Serum	3-5 mL	28days	SJH	Immunology	
Chlamydia PCR - SWAB	Swab	Gene Probe APTIMA swab (available in Micro lab)	N/A	10 days (additional days required for confirmation of reactive samples)	NVRL	Microbiology	Store at 4 °C if delay in transportation to the laboratory
Chlamydia PCR - URINE	Urine	Universal container	Min 5 ml	10 days (additional days required for confirmation of reactive samples)	NVRL	Microbiology	Store at 4 °C if delay in transportation to the laboratory
Chloramphenicol	Blood	Serum	1 mL	2 wks	Southmead Hospital, Bristol	Microbiology	1 hour or less pre (trough) 2 hours post (peak) Clearly label tubes with trough or peak
Chloride - urinary**	Urine (spot)	Urine	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Chloride**	Blood	Lithium	1.2 mL	2 hr	CHI at Temple	Biochemistry	** Test not accredited; this

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		Heparin			Street		does not invalidate the results
Cholesterol**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Cholinesterase Biochemical phenotyping and genotyping	Blood	Lithium Heparin / Serum	3 mL	Contact referral laboratory	Southmead Hospital, Bristol	Biochemistry	
Chromosome Instability / Chromoson Breakage Analysis / Fanconi Screen / /Ataxia Telangiectasia	Blood	Lithium Heparin	2-5 mL	10 days	Viaph, Guy's Hospital, London	Haematology	Rotate gently to avoid clotting. Provide details of any previous radiotherapy or chemotherapy the patient has received.
Citrate (Urinary)	Urine (spot)	Universal container	8 mL	2 wks	UCLH, London	Biochemistry	
CJD - CSF	CSF	CSF tube	1 mL	Contact referral laboratory	Western General Hospital, Edinburgh	Microbiology	MUST be pre-arranged by requesting clinician. Consignee (CJD Surveillance Unit) will organise transport
CK**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Clonazepam / Rivotril	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	Chalfont Centre for Epilepsy	TDM	
CMV for transplant	Blood Urine, Throat swab	EDTA / Serum Universal container Viral Swab	1.2ml	6 days	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
CMV PCR	Blood	EDTA	1.2ml	8 days	NVRL	Microbiology	
CMV Screening card.	Screening card retrieved by newborn	Screening card retrieved by newborn	Screening card retrieved by newborn	Contact referral laboratory	NVRL	Microbiology	By arrangement with lab

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
	screening lab.	screening lab.	screening lab.				
CMV Serology	Blood	Serum	1.2ml	8 days	NVRL	Microbiology	
CMV Urine	Urine (spot)	Sterile container		5 days	NVRL	Microbiology	Send fresh urine otherwise store at 4°C and send as soon as possible
Coagulation Factor Mutation Analysis (Haemophilia)	Blood	EDTA	5 mL	Contact referral laboratory	CHI at Crumlin	Haematology	
Coagulation Screen + Hypercoagulation Screen + Lupus Anticoagulant Organise through haematology	Blood	Sodium citrate	1.4 mL x 1 3 mL x 4	1 wk	CHI at Crumlin	Haematology	
Coagulation Screen + Hypocoagulation Studies + VW Screen	Blood	Sodium citrate	1.4 mL x 2 3 mL x 2	1 wk	CHI at Crumlin	Haematology	
Coeliac Screen / Tissue Transglutaminase Antibodies / TTG	Blood	Serum ONLY	2.7 mL	3 wks	CHI at Crumlin	Biochemistry	
Coenzyme Q10 / (UBIQUINONE)	Muscle as per Histology protocol	Saline soaked gauze in universal container	Muscle biopsy	1 month	Institute of Neurology, London	Immunology	
Cold agglutinins	Blood	4.5mL Red label EDTA KE for blood transfusion only	4.5 ml	2 wks	IBTS	Blood Transfusion	Please use PDA to label form and sample. Send fresh same day. Send on IBTS request form
Compatibility Test incl. Group & Screen / (Group & Hold, Type	Blood	4.5mL red label EDTA KE for	Age > 4 months: 2mL	Urgent: 1 hr Routine: 3 hrs	CHI at Temple Street	Blood Transfusion	Please use PDA to label form and sample.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
& Screen)		blood transfusion only	(min) Age < 4 months: 1-2 mL (min)	/ as required			<p>In the event of an emergency where there is no time to wait for crossmatch compatible blood, emergency Group O Rh D Negative blood (less than 10 day old neonatal units) are available for use.</p> <p>In an emergency situation, crossmatch compatible blood could be available within 40-60 mins provided there are no antibodies or serological complications.</p> <p>Routine pre-ops should be received in the laboratory by 14:00 prior to the day of surgery</p> <p>Turnaround times assume that the patient has no special requirements (e.g. < 5 day old blood or irradiated red cells or pedipacks which are ordered from the IBTS</p> <p>Two blood groups (ideally taken 12 hours apart*) are required before the patient is</p>

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							<p>issued group specific blood. If the patient has a historical group on record (from a previous admission) then one group will suffice for crossmatching. If it is not possible to obtain two groups, the patient will have O Rh D Negative blood issued. Our aim is that all patients prior to transfusion have two blood groups on record to ensure patient safety & reduce the demand on our O Rh D negative blood supply.</p> <p>*If the patient requires a transfusion with only one sample on record, a second sample can be taken by a different sample taker, if the samples are taken less than 12 hours apart.</p>
Complement C3 Nephritic factor	Blood	Serum	1.2ml	28 days	RVI Newcastle upon Tyne	Immunology	
Complement Levels (C3 and C4)	Blood	Serum	1.2ml	1 wk	CHI at Crumlin	Biochemistry	
Connective Tissue Disease Screen	Blood	Serum	1.2ml	2 wk	Mater Misericordiae University	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
					Hospital (MMUH)		
Connexin 46	Blood	EDTA	5ml	4 - 8 wks	CHI at Crumlin	Genetics	
Contact Factor Screen	Blood	Sodium citrate	1.4 mL x 1 2.9 mL x 4	1 wk	CHI at Crumlin	Haematology	
Continuous Ambulatory Peritoneal Dialysis (CAPD) Fluid C/S & Microscopy	CAPD	50 mL blue capped centrifuge tubes (available from Micro)	25-50 mL	Cell count & Gram phoned ASAP. Final report: min 5 days	CHI at Temple Street	Microbiology	Tubes available from Microbiology. Transport to laboratory immediately. Store samples at 4°C if delay in transportation
Copper - BLOOD	Blood	Metal free / Lithium Heparin Trace metal analysis tube	3 mL	4 wks	Belfast Royal Victoria	Biochemistry	
Copper - URINE	Urine	24 hour container		4 wks	Belfast Royal Victoria	Biochemistry	
Cortisol on DBS	Blood	Dried Blood Spot Card	4 spots	4-6wks	Southampton General Hospital	Biochemistry	Dried bloodspot card- 4 spots 1. Before morning steroid dose 2. Between 11.00 and 13.00 3. Between 15.00 and 19.00 4. Before night steroid dose. On the day of collection, samples can be stored at 40C but should be frozen at -200C for longer periods. Send out at ambient temperature.
Cortisol**	Blood	Serum	1.2 mL	3 days	CHI at Temple Street	Biochemistry	Collect sample at 08.00 and 24.00 or as part of Dynamic Function Test. State time of

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							collection on form. ** Test not accredited; this does not invalidate the results
Coxsackie Serology	Blood	Serum	1.2ml	3 wks	Medical Microbiology Partnership	Virology	
CRE screen	Faeces/rectal swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Creatine Transporter Gene	Blood	EDTA	1.2 mL	Contact referral laboratory	VU Medical Centre Amsterdam	Biochemistry	
Creatine/Creatinine Ratio	Urine (random)	Universal container	3-5 mL	Contact referral laboratory	VU Medical Centre Amsterdam	Biochemistry	
Creatinine - BLOOD**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Creatinine - URINE**	Urine	Universal container	2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Creatinine clearance**	Blood AND Urine	Lithium Heparin 24 hr Urine	1.2 mL 24 hr urine collection	24 hr	CHI at Temple Street	Biochemistry	Send to lab upon completion of 24 hr collection. State patient weight and height on form. ** Test not accredited; this does not invalidate the results
CRP (C Reactive protein)**	Blood	Lithium Heparin / Serum	1.2ml	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Cryoglobulins	Blood	Serum	5ml		SJH	Immunology	Contact lab before taking. Must be prearranged. Blood bottle need to be kept at

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							between 36 and 42 degrees at all times. Flask available from Dispatch lab. STAT to lab
Cryptococcus Antigen	Blood	Serum	3 mL	Contact referral laboratory	Public Health England South West Laboratory	Microbiology	
Cryptosporidium	Faeces	Sterile container	Representative sample	Urgent: 24 hrs Routine: up to 10 days	Public Health Lab (PHL), Cherry Orchard Hospital	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
CVC line/tipC/S	CVC line/tip	Sterile universal	Total sample	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Cyclic AMP	Blood	EDTA (special tubes supplied by SVUH)		Contact referral laboratory	SVUH	Metabolic Laboratory	
Cyclosporin A	Blood	EDTA	2 mL	1 week	CHI at Crumlin	Biochemistry	State time of last dose on request form
Cystatin C	Blood	Lithium Heparin / Serum	1.2ml	Contact referral laboratory	Manchester Royal Infirmary	Biochemistry	
Cystic Fibrosis Genetics	Blood	EDTA	3-5 mL	12 wks	CHI at Crumlin	Genetics	
Cysticercosis	Blood	Serum	3 mL	28 days	Hospital for Tropical Diseases	Microbiology	
Cystine (white cell)	Blood	Lithium Heparin	5 mL	6-8 weeks	Evelina Children's Hospital, London	Metabolic Laboratory	Please arrange with Metabolic lab for sample to be taken during clinic (ext 4724) If taken outside of these times the Clinician must accept risk of delay in sample delivery

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							to referral lab. Samples taken outside of clinic have 24hours to be analysed. For monitoring omit first morning dose of Cysteamine and take blood immediately
Cytokines / Interleukin (IL1 , IL4, IL8, IL10)	Blood	Serum	5 ml	4 weeks	Eurofins Biomnis	Biochemistry	
Cytology CSF	CSF	CSF tube	Minimum 1 mL	3-5 days	Beaumont	Histology	
Cytology Specimens/FNA	Sputa Body Fluids Fine Needle Aspirates	Fresh/equal volume of Cytofix fluid	Representative sample	3-7 days	CHI at Crumlin	Histology	If special stains or immunohistochemistry (external test) required, turnaround time is 10-14 days
Cytotoxic Antibodies Screen	Blood	Serum	5-10 mL	2 - 4 wks. Urgent service available	Beaumont	H&I lab	RENAL PATIENTS ONLY Name, DOB and date taken needs to be written on tube
D-Dimers	Blood	Sodium citrate	1.4 mL	1 day	CHI at Crumlin	Haematology	
Dengue Virus	Blood	Serum	1.2ml		NVRL	Microbiology	
DHEAS	Blood	Serum	2.7 mL	9 days	St James's University Hospital, Leeds	Biochemistry	
Digoxin	Blood	Serum	1.2 mL	1 wk	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Dihydrotestosterone	Blood	Lithium Heparin / Serum	1.2ml	Contact referral laboratory	St James's University Hospital, Leeds	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Diphtheria Titres	Blood	Serum	1.2ml	6 weeks	Medical Microbiology Partnership	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
Direct Antiglobulin Test	Blood	4.5mL red label EDTA KE for blood transfusion only	0.5 mL (min)	Same day	CHI at Temple Street	Blood Transfusion	
DNA fragility	Blood	Serum	1.2ml	Contact referral laboratory	GOSH	Haematology	
Donor Specific Antibodies	Blood	Serum	5 ml	Contact referral laboratory	Beaumont	H&I lab	Name, DOB and date taken needs to be written on tube
Double stranded DNA antibodies	Blood	Serum	1.2ml	2wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Drug induced antibody mediated thrombocytopenia	Blood & Sample of implicated drug(s) together with the pharmacological concentration used	Serum	6 mL		NHS Blood & Transplant	Haematology	Discuss with Consultant Haematologist. Refer to http://hospital.blood.co.uk/media/27703/frm999-hi-request-form-3d-platelet-immunology.pdf for request form and further information.
Drug Screen - Blood	Blood	Serum	1.2ml	1 wk Urgent requests contact lab	Beaumont	Toxicology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Drug Screen - Urine	Urine (spot)	Universal container	5ml	1 wk Urgent requests contact lab	Eurofins Biomnis	Toxicology	
Ear C/S	Ear swab	Ear Swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
EBV PCR (Epstein - Barr Virus)	Blood	EDTA	1.2ml	8 days	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
EBV serology (Epstein - Barr Virus)	Blood	Serum	1.2ml	6 days	NVRL	Microbiology	
Echinococcus Granulosus (Hydatid serology)	Blood	Serum	3 mL	Contact referral laboratory	Hospital for Tropical Diseases	Microbiology	
Echinococcus histolitica (Ameobic serology)	Blood	Serum	3 mL	Contact referral laboratory	Hospital for Tropical Diseases	Microbiology	
Ecluzimab / Eculzimab	Blood	EDTA	5 mL	Contact referral laboratory	Hopital Europeen, Paris	Immunology	
Ecoli 0157 / VTEC FAECES	Faeces	Sterile container	Representative sample	9 days	Public Health Lab (PHL), Cherry Orchard Hospital	Microbiology	Relevant clinical data (e.g. query 0157/HUS) must be included on request form. Sample from family members must not use patient addressograph (include patient name & MRN in Reason for Request field). Contact PHL for urgent

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							requests (01-6206175) Store samples at 4° C if delay in transportation to the laboratory
Ecoli 0157 titres / serology [Verotoxin]		NO LONGER AVAILABLE					
Elastase	Faeces	Universal container	Min 5 g	4 wks	Birmingham City Hospital	Biochemistry	
EMA / Erythrocyte Membrane Antigen Analysis [Hereditary spherocytosis]	Blood	EDTA	1.2 mL	1 wk	CHI at Crumlin	Haematology	Samples <7days old are unsuitable for analysis
EMDT / Erythrocyte Membrane Antigen Dye Binding Test	Blood	EDTA	3-5 mL (children) 15-20 mL (adults)	Contact referral laboratory	NHS Blood & Transplant	Biochemistry	
ENA screen (includes LA, RNP, Sm antibodies)	Blood	Serum	1.2ml	3 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Enterovirus PCR (including Coxsackie)	Blood	EDTA	1.2ml	2 wks	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
Enterovirus culture	Rectal swab or Throat swab	Viral transport swab	Representative sample N/A	25 days (additional time required for	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				confirmation of reactive samples)			
Enterovirus PCR	Rectal swab Throat swab	Viral transport swab	Representative sample N/A	8 days (additional time required for confirmation of reactive samples)	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
Enterovirus PCR - CSF	CSF	CSF tube	Min 150µL	5 days	NVRL	Microbiology	Transport to the laboratory immediately. Must hand to Medical Scientist
Enterovirus PCR (including Coxsackie)	Faeces	Sterile container	Representative sample	8 days	NVRL	Microbiology	
Epimerase	Blood	EDTA	2 - 5 mL	4 weeks	Academic Medical Centre, Amsterdam	Metabolic Laboratory	
EPO Erythropoietin	Blood	Serum	2mL	1 wk	Eurofins Biomnis	Biochemistry	
EPO Erythropoietin antibodies	Blood	Serum	2 mL	1 wk	Eurofins Biomnis	Biochemistry	
Escherichia coli PCR (E. coli)	CSF (blood, body fluids, others - upon consultant request)	EDTA CSF tube	Blood ; 0.5-1.0 mL CSF : 0.5 mL Body Fluids/Other : Varies	On samples received by 11.00, Result available between 16.00-17.00 same day	CHI at Temple Street	IMSRL	Samples should be collected as close to onset as possible and prior to administration of antibiotics. Store samples at 4°C if delay in transportation. Indications for testing: CSF: Only if patient has <i>E.coli</i> bacteraemia or UTI and is <90 days and has evidence of meningitis, or has galactosaemia.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							All other requests by special request only.
ESR / Erythrocyte Sedimentation Rate**	Blood	EDTA (black top)	2.7 mL	Same day for samples received within routine hours. 24 hrs for samples outside of routine hours	CHI at Temple Street	Haematology	** Test not accredited; this does not invalidate the results
Ethosuximide (Zarontin)	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	Chalfont Centre for Epilepsy	TDM	
Everolimus	Blood	EDTA			Wythenshawe Hospital	Biochemistry	
Extended Respiratory Viral PCR	NPA or NPS (red cap)	Universal containerSwab	Full sample	8 hrs	CHI at Temple Street	Microbiology	Samples from ICU, immunocompromised or Cystic Fibrosis patients will be tested. Other requests are processed following authorisation by the Consultant Microbiologist.Samples taken after 23.00 will be processed the following day
Extrinsic Screen	Blood	Sodium citrate	3 mL x 2 If intrinsic factor required 3 mL x 2	Batch tested fortnightly. Contact lab for urgent requests	CHI at Crumlin	Haematology	
Eye sample, Eye nucleation	Eye biopsy	Sterile	Eye sample	Contact	SVUH	Histology	Please discuss with CHI at

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
specimens		Universal		referral laboratory			Temple Street Histology Laboratory
Fabry's Enzyme.	Blood	EDTA	5ml	2 wks	St Mary's Hospital Manchester	Metabolic Laboratory	(To rule out Fabry's disease)
Factor V Leiden	Blood	EDTA & Citrate	1.2 mL 1.4 mL x 2	28 days	SJH	Haematology	
Factor VIII(Chromogenic or Clotting Assay)	Blood	Sodium citrate	1.4 mL	2 wks	CHI at Crumlin	Haematology	
Factor XIII	Blood	Sodium citrate	2 x 3ml		SJH	Haematology	
Faecal Occult blood (FOB)**	Faeces	Sterile container	Representative sample	8 hrs	CHI at Temple Street	Microbiology	** Test not accredited Store at room temperature
Faeces C/S	Faeces	Sterile container	Representative sample	Up to 7 days	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Ferritin**	Blood	Lithium Heparin / Serum	1.2 mL	3 days	CHI at Temple Street	Biochemistry	Ferritin is an acute phase reactant. Non-specific elevation can occur in several different disease states ** Test not accredited; this does not invalidate the results
FGF23	Blood	EDTA	2.7 mL	Contact referral laboratory	Norfolk & Norwich University	Biochemistry	
Fibrinogen **	Blood	Sodium Citrate	1.4 mL	2 hrs	CHI at Temple Street	Haematology	Samples must be filled to the line marked on the side of the tube. Overfilled or underfilled samples will give inaccurate results and will not be analysed.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							Test must be performed within 2-4 hours of the sample being taken. ** Test not accredited; this does not invalidate the results
Fibrinogen Antigen	Blood	Sodium citrate	3 mL	28 days	SJH	Haematology	
Fibroblast culture	Skin biopsy	Culture medium from Histology	3 mm punch	6-12 months	Sheffield Children's Hospital	Biochemistry	
Filaria Serology	Blood	Serum	3 mL	3 wks	Hospital for Tropical Diseases	Microbiology	
FilmArray Gastrointestinal (FAGI) panel	Faeces				CHI at Temple St	Microbiology	Test available on microbiology consultant approval only
Flecainide	Blood	Serum	2 mL	Contact referral laboratory	St George's Hospital, London	Biochemistry	
Flow Cytometry	Blood	EDTA		Contact referral laboratory	CHI at Crumlin	Haematology	
Flucytosine	Blood	Serum	2 mL	Contact referral laboratory	Public Health England South West Laboratory	Microbiology	
Folate	Blood	Serum	1.2ml	1 wk	Mater Misericordiae University Hospital (MMUH)	Biochemistry	Avoid haemolysis. Ideally patient should be fasting. State if receiving folate supplements
Folate (Red cell)	Bood	EDTA	1.2ml	1 month	Mater Misericordiae University Hospital (MMUH)	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Fragile X Syndrome	Blood	EDTA	3-5 mL (Smaller amount may be accepted for infants)	Routine 24 weeks Urgent 2 -4 wks	CHI at Crumlin	Genetics	
Free Androgen Index FAI	Blood	Serum	1.2ml	2 weeks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	Testosterone/ SHBG ratio
Free Cortisol	Urine	24 hour container		2 weeks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	Must be 24 hour collection.
Frozen section	Any	Fresh/moist saline gauze in sterile container	N/A	20 mins	CHI at Temple Street	Histology	Neuropathology service only available. Prior arrangement with the laboratory. 24 hours notice is required. Send immediately to the laboratory
Fructosamine	Blood	Plain tube	2 mL	Contact referral laboratory	Rotunda	Biochemistry	
Fructose-1,6-diphosphatase, Fructose-1,6-bisphosphatase	Blood	Lithium Heparin	5 mL (min)	4 - 8 wks	GOSH	Biochemistry	
FSH / Follicle Stimulating Hormone**	Blood	Lithium Heparin / Serum	1.2ml	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
FTI / Free Testosterone Index	Blood	Serum	1.2ml	3 wks	Mater	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
					Misericordiae University Hospital (MMUH)		
Full Blood Count (FBC)**	Blood	EDTA	1.6 mL	2 hrs (inpatients) 24 hrs (out patients). URGENT FBC 1HR. Urgent FBC specified as those from ICU, theatre, Casualty and HAematology Clinic or if phoned call is received to say the sample is urgent	CHI at Temple Street	Haematology	Urgent FBC specified as those from ICU, theatre, Casualty and HAematology Clinic or if phoned call is received to say the sample is urgent ** Test not accredited; this does not invalidate the results
Fungal Susceptibility Testing	Fungal Culture Plate	Fungal Culture Plate	Fungal Culture Plate	2 weeks	St James's University Hospital, Leeds	Microbiology	
GAD Antibodies ONLY IF REQUESTED AS PART OF DIABETES SCREEN ie Gad, Pancreatic Islet Cell, ZnT8 antibodies	Blood	Serum	5 mL	3 wks	Royal Devon and Exeter Hospital	Immunology	
GAD Antibodies / glutamic acid decarboxylase antibodies	Blood	Serum	1.2ml	3 wks	Oxford University Hospital (Churchill)	Immunology	
GAG/Creatinine ratio (part of	Urine (spot)	Universal	5 mL	2-28 days	CHI at Temple	Metabolic	Fresh urine, frozen without

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
urine metabolic screen)		container			Street	Laboratory	preservative. NOTE: MPS (GAG) screen only: false negatives may occur. If an MPS disorder is suspected clinically, urine should be sent directly to Willink, Manchester for GAG electrophoresis.
GAL – 1 - P / Galactose - 1 - Phosphate	Blood	Lithium Heparin	3 mL	Contact referral laboratory	Birmingham Children's Hospital	Biochemistry	Take Monday to Wednesday only. Take Thursday if clinician accepts risk of delay. Should never be taken on Fridays
Galactitol (urine)	Urine	Universal container	1 mL	Contact referral laboratory	Southmead Hospital, Bristol	Biochemistry	
Galactokinase	Blood	Lithium Heparin	3 mL	Contact referral laboratory	Southmead Hospital, Bristol	Biochemistry	Take Monday to Wednesday only. Take Thursday if clinician accepts risk of delay. Should never be taken on Fridays
Galactomannan	Blood	Serum	1.2ml	10 days	CHI at Crumlin	Microbiology	Blood should be taken before initiation of antifungal therapy where possible, serial samples are preferable. After the course of treatment a convalescent serum sample is required.
Galactose	Blood	Fluoride Heparin	1.2 mL	1-2 weeks	Southmead Hospital, Bristol	Biochemistry	Take Monday to Wednesday only. Take Thursday if clinician accepts risk of delay.
Galactose-1-Phosphate Uridyl Transferase	Blood	Lithium Heparin	3 mL	6 weeks	Southmead Hospital, Bristol	Biochemistry	Discuss with Consultant Chemical Pathologist. Take Monday to Wednesday only.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							Take Thursday if clinician accepts risk of delay. Should never be taken on Fridays
Galactosidase Alpha, Glucosidase, acid maltase (part of WCE screen)	Blood	EDTA	2.7 mL	4 wks	St Mary's Hospital Manchester	Metabolic Laboratory	Cannot be taken on Fridays. Take Mon to Wed. Send Thursday if the Clinician accepts risk of transit delay. Unsuitable if received on Friday.
Gallstones	Stone	Universal Container	N/A	Contact referral laboratory	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
GAMT	Urine	Universal container	3-5 mL	Contact referral laboratory	VU Medical Centre Amsterdam	Biochemistry	
Gastroenteritis Screen (Adenovirus, Rotavirus, Norovirus, Sapovirus, Astrovirus)	Faeces	Sterile container		9 days	NVRL	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
GB3 / GL3 / Globotriaosylceramide / CTH	Urine	Sterile Universal Container	5ml	6 weeks	GOSH	Biochemistry	
GCSF receptor mutations	Blood	EDTA	10 mL Infant min 1-2 mL	Contact referral laboratory	University Hospital Tuebingen	Haematology	
Genetics for Haemochromatosis	Blood	EDTA	2 mL	7 weeks	Beaumont	Biochemistry	
Gentamicin**	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Refer to CHI at Temple Street/CHI at Crumlin Antimicrobial Guidelines

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							document (available on intranet) ** Test not accredited; this does not invalidate the results
GGT / gamma-glutamyl transferase**	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Gilbert's Syndrome	Blood	EDTA	> 16 yr: 5mL 2-15 yr: 5 mL 0-2 yr: 2 mL	3 wks	Kings College Hospital, London	Haematology	Presence of heparin anticoagulant will inhibit PCR applications.
Glomular Base Membrane Anibodies GBMAB	Blood	Serum	1.2ml	4 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Glucose - BLOOD**	Blood	Fluoride	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Glucose - CSF / Glucose: Plasma Glucose ratio**	Blood & CSF	Fluoride / Plain	0.5 mL CSF 1.3 mL blood	2 hr	CHI at Temple Street	Biochemistry	Send to lab ASAP. Blood for plasma glucose should be taken at the same time. State time of collection. Patients should be fasting 4-6 hours. Plasma sample should be taken prior to lumbar puncture. Collect glucose sample ASAP. Avoid sedation with chloral hydrate. Avoid giving sugary drinks/sweets etc as will falsely lower CSF/plasma glucose ratio.** Test not accredited; this does not invalidate the results

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Glucose-6-phosphate dehydrogenase (G6PD)	Blood	EDTA	1.2 mL	2 wks	Viapath (KCH)	Haematology	
Glycine receptor antibodies	Blood	Serum	1.2ml	4 wks	Oxford University Hospital (Churchill)	Immunology	
GnRH Stimulation Test (LH and FSH performed)	Blood	Serum	1.2ml	3 days	CHI at Temple Street	Biochemistry	
Gonadotrophins (FSH , LH)**	Blood	Serum	1.2ml	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Gonococcus Swab	Swab	Gene Probe APTIMA swab (available in Micro lab)		10 days	NVRL	Microbiology	Store at 4 °C if delay in transportation to the laboratory
Gonococcus Urine	Urine	Urine	5ml	11 days	NVRL	Microbiology	Store at 4 °C if delay in transportation to the laboratory
Granulocyte Antibodies	Blood	Serum, EDTA	2 mL, 2ml	4 wks	NBS Centre, Bristol	H&I lab	
Group & Screen / (Group & Hold, Type & Screen)	Blood	4.5mL red label EDTA KE for blood transfusion only	Age > 4 months: 2 mL (min) Age < 4 months: 1-2 mL (min)	Urgent: 1 hr Routine: 3 hrs	CHI at Temple Street	Blood Transfusion	Please use PDA to label form and sample.
Group B Streptococcus PCR	Blood CSF Body fluids, others	EDTA Sterile container	Blood ; 0.5-1.0 mL CSF : 0.5 mL Body Fluids/Other :	On samples received by 11.00, Result available between	CHI at Temple Street	IMSRL	Samples should be collected as close to onset as possible and prior to administration of antibiotics. Store samples at 4°C if delay in transportation.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
			Varies	16.00-17.00 same day			Indications for testing: CSF: Only in infants <90 days with meningitis , for others discuss with the Laboratory Blood: Only in infants <7 days with high suspicion of GBS, for children >7 days discuss with the Laboratory
Growth Hormone (GH)	Blood	Serum	1.2 mL	3 days	CHI at Crumlin	Biochemistry	Normally collected as part of endocrine dynamic function test protocol or hypoglycaemic work up.
GSD profile / Glycogen (Red Cell) / [Erythrocyte phosphorylase B kinase] / Type 2 (Pompe disease) (Enzymes)	Blood	EDTA Lithium Heparin	5 mL 1.3 mL	4-8 wks	GOSH	Biochemistry	Take Mon -Wed only. Take Thursday is Clinician accepts risk of transport delay. Do not take Fridays.
Guanidinoacetate GAA / Creatine synthesis and transport defects	Urine (random)	Universal container	3-5 mL	Contact referral laboratory	VU Medical Centre Amsterdam	Biochemistry	Min 1ml required
Guanidinoacetate GAA / Creatine synthesis and transport defects	Blood	EDTA	2ml	Contact referral laboratory	VU Medical Centre Amsterdam	Biochemistry	Min 250ul required
Haemoglobin electrophoresis	Blood	EDTA	1.2 mL	1 wk	CHI at Crumlin	Haematology	
Haemoglobin profile - HPLC (High Performance Liquid Chromatography)	Blood	EDTA	1.2 mL	1 wk	CHI at Crumlin	Haematology	Test to establish Hemoglobin Profile
Haemoglobinopathy profile	Blood	EDTA	1 .2mL	2 weeks	CHI at Crumlin	Haematology	
Haemophilus Influenza antibodies (HIB antibodies) / (Haemophilus IgG) /	Blood	Serum	1 .2mL	6 weeks	Medical Microbiology Partnership	Microbiology	Store samples at 4°C if delay in transportation to the laboratory

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
(Haemophilus Abs)							
<i>Haemophilus influenzae</i> identification (phenotypic and PCR**), serotyping (serology and PCR**) & susceptibility testing	Purified isolate	Purified isolate on chocolate agar slope or on charcoal transport swab	N/A	Identification and serotyping - 10 working days; Susceptibility testing carried out quarterly (urgent samples processed on request) and results are available on request.	CHI at Temple Street	IMSRL	** Test not accredited; this does not invalidate the results Send purified isolate on slopes ASAP after overnight incubation. Suspected cluster/outbreak or unusual clinical or epidemiological queries processed on request following discussion with the medical microbiologist on clinical service in CHI at Temple Street
<i>Haemophilus influenzae</i> PCR**	Blood CSF Body fluids, others	EDTA Sterile container	Blood ; 0.5-1.0 mL CSF : 0.5 mL Body Fluids/Other : Varies	On samples received by 11.00, Result available between 16.00-17.00 same day	CHI at Temple Street	IMSRL	** Blood & CSF: Test not accredited Samples should be collected as close to onset as possible and prior to administration of antibiotics. Store samples at 4°C if delay in transportation. Indications for testing: CSF: Only in infants >=7 days if high CSF white cell count noted on request form. Blood: Only for PICU patients or patients aged >=65 years. All other requests by special

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							request only.
Haemosiderin	Urine (early morning)	Universal container		3 wks	SJH	Haematology	Measured in patients suspected of having haemolytic anaemia. Phone to arrange test
Hair Fungal culture, Direct Microscopy	Hair	Sterile container	Representative sample	14-28 days	CHI at Temple Street	Microbiology	Store at room temperature if delay in transportation to the laboratory
HAIR Microscopy	Hair	Universal container	Strand of hair	Contact referral laboratory	Bristol Royal Infirmary	Histology	
Haptoglobin	Blood	Serum	2 mL	9 days	Mater Misericordiae University Hospital (MMUH)	Immunology	
HB / Anti HBsAg / Anti HB Core / Hepatitis B	Blood	Serum	5 mL	8 days	NVRL	Microbiology	
HbA1c	Blood	EDTA	1.6ml	2 weeks	CHI at Crumlin	Biochemistry	Available as POCT for CHI at Temple Street diabetic patients
HCG (Pregnancy Test)	Urine (spot)	Plain tube	10 mL	Contact referral laboratory	Rotunda	Microbiology	Pregnancy test only
HDL cholesterol**	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Helicobacter pylori antigen	Faeces	Sterile container	Representative sample	6 weeks	CHI at Crumlin	Microbiology	Store at 4 °C if delay in transportation to the laboratory
Heparin Induced	Blood	Serum (White)	2 x 6ml	2 wks	SJH	Haematology	Must go with special request

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Thrombocytopaenia Screen (HITS)							form available from Haematology
Hepatitis A, B, C	Blood	Serum	5 mL	8 days	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
Hepatitis C Genotype	Blood	Serum	5 mL	3 wks	NVRL	Microbiology	By Arrangement
Hepatitis PCR Hepatitis viral load	Blood	Serum	5 mL	14 days	NVRL	Microbiology	
Hereditary Elliptocytosis / Osmotic Fragility	Blood	EDTA	3-5 mL Plus control patient (sibling of like age or parent). Adult control required requires 10-20 mL	1 wk	CHI at Crumlin	Haematology	
Herpes PCR HHV6 - BLOOD	Blood	EDTA	1.6ml	5 days	NVRL	Microbiology	
Herpes PCR HHV6 - CSF	CSF	Sterile container	Min 150µL	5 days (additional time required for confirmation of reactive samples)	NVRL	Microbiology	Contact NVRL if urgent. Only performed routinely on Children <3 yrs Store samples at 4°C if delay in transportation to the laboratory
HGPRT (Hypoxanthine-Guanine-Phosphoribosyl Transferase)	Blood Urine (spot)	EDTA	5 mL	4 weeks	Laboratorium Erfelijke Metabole Ziekten, Maastricht	Metabolic Laboratory	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
HHV7 / HHV8 PCR	Blood CSF	EDTA	1.6 mL 0.5 mL	21 days	HPA Colindale	Microbiology	
HIAA, 5	Urine (spot)	Universal container		3 wks	Beaumont	Biochemistry	
High Vaginal Swab C/S	High Vaginal Swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Histamine	Blood	Sodium Heparin	2ml	4 wks	Eurofins Biomnis	Biochemistry	Bottles available from Dispatch
Histology	Brain and Cusa sample	10% formalin	N/A	Contact referral laboratory	Beaumont	Histology	To go to Beaumont on same day, must be in lab before 4:30pm.
Histoplasma	Blood	Serum	1.2ml	Contact referral laboratory	Public Health England South West Laboratory	Microbiology	
HIV PCR/Viral Load / HIV Resistance Testing	Blood	EDTA	1.36mL	9 days 14 days	NVRL	Microbiology	
HIV serology	Blood	Serum	1.2ml	6 days	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
HLA Antibodies (Cytotoxic Antibodies) - RENAL PATIENTS	Blood	Serum	5-10 mL	2 - 4 wks. Urgent service available	Beaumont	H&I lab	RENAL PATIENTS ONLY Name, DOB and date taken needs to be written on tube
HLA Typing (B27, DQ2, DQ4, DQ8, DQB1*06:02 and others)	Blood	4.5mL red label EDTA KE for blood transfusion only	5-10 mL	4 wks.	IBTS	Blood Transfusion	
HLA Typing / [Tissue typing] - RENAL PATIENTS	Blood	Sodium citrate	10 mL	4 wks. Urgent service available	Beaumont	H&I lab	RENAL PATIENTS ONLY Name, DOB and date taken needs to be written on tube

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Holotranscobalamin / Active B12	Blood	Serum	2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Homocysteine (total)	Blood	Lithium Heparin / EDTA or Sarsteddt S-Monovette citric acid tubes (see Special Precautions)	1.2ml	Routine 3 working days. Urgent samples same day	CHI at Temple Street	Metabolic Laboratory	Fasting sample preferred" "Referring laboratories: separate and freeze plasma within 15 minutes of sample collection. Send frozen to CHI at Temple Street
HSV / Herpes Simplex Virus PCR	Blood	EDTA	1.2ml	6 days	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
HSV / Herpes Simplex Virus PCR	Viral Swab	EDTA	1.2ml	6 days	Rotunda	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
HSV / Herpes Simplex Virus serology	Blood	Serum	1.2ml	6 days	NVRL	Microbiology	Store samples at 4°C if delay in transportation to the laboratory
Human metapneumovirus	NPA or viral swab	Sterile container / viral swab	Entire sample	7-10 days (seasonal variation)	NVRL	Microbiology	Transport to the laboratory immediately
HUS serology	Blood	Serum	1.2ml	Contact referral laboratory	Institute of Human Genetics, Newcastle upon Tyne	Genetics	
Hypercholesterolaemia	Blood	EDTA	5 ml	Contact referral	Liverpool Women's NHS	Genetics	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				laboratory	Foundation Trust		
Hyperinsulinism Genetics	Blood	EDTA	2.7 mL	Contact referral laboratory	Royal Devon and Exeter Hospital	Genetics	
Hypocoagulation Studies/Factor Assays (INT + EXT)	Blood	Sodium citrate	1.4 mL x 1 3 mL x 4	3 wks	CHI at Crumlin	Haematology	
Hypocretin / Orexin	CSF	CSF tube	1.3 mL	5-7 wks	Oxford University Hospital (Churchill)	Immunology	CSF only. Not tested on blood samples
Hypoglycaemic work-up (Lactate, Glucose, Insulin, Cortisol, Growth Hormone)**	Blood	Lithium Heparin x1 Fluoride X1 Clotted X2 Blood Gas, Dried Bloodspot Urine	1.2ml blood, 5ml urine	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
IgD	Blood	Serum	1.2ml	3 wks	Northern General Hospital, Sheffield	Immunology	
IGF 1 Insulin like growth factor 1	Blood	Serum	2.7 mL	2 wks	CHI at Crumlin	Biochemistry	
IGF BP3	Blood	Serum	2 mL	3 wks	CHI at Crumlin	Biochemistry	Request if suspect low serum IGF-1
IgG index CSF + Serum	Blood CSF	Serum	1.2 mL 0.7 mL	3 wks	Northern General Hospital, Sheffield	Immunology	Also request Oligoclonal banding. Take paired serum same day.
IgG subclasses / IgG subsets	Blood	Serum	1.2ml	2 wks	Northern General	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
					Hospital, Sheffield		
IL28B	Blood	EDTA	1.6ml	Contact referral laboratory	NVRL	Microbiology	
Immunofluorescence SKIN (DIF)	Skin	Saline soaked gauze in universal container	N/A	28 days	Mater Misericordiae University Hospital (MMUH)	Immunology	
Immunoglobulin A**	Blood	Lithium heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Immunoglobulin G**	Blood	Lithium heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Immunoglobulin M**	Blood	Lithium heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Immunophenotyping	Blood or Bone Marrow	EDTA	2 mL 2 mL	Contact referral laboratory	CHI at Crumlin	Haematology	
Influenza & RSV PCR	NPA/ NPS	Red capped UTM swab	1 mL	4-5 hours	CHI at Temple Street	Microbiology	Test routinely available during influenza and RSV season only. Samples also processed (in batches) on call up to 23.00. Store samples at 4° C if delay in transportation to the laboratory
Inherited Bone Marrow Failure Syndromes Gene Panel (IMBS)	Blood	EDTA	Adults 3-4ml Child min 1ml	4 months	Radboud University Medical Centre, Nijmegen	Genetics	
Inhibin B	Blood	Serum	3 mL	4 wks	GOSH	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Inhibitor Screen	Blood	Sodium citrate	1.4 mL x 1 3 mL x 1	Batch tested every 3 wks	CHI at Crumlin	Haematology	
INR (international normalised ratio)**	Blood	Serum	1.4 mL	2 hrs	CHI at Temple Street	Haematology	<p>Samples must be filled to the line marked on the side of the tube. Overfilled or underfilled samples will give inaccurate results and will not be analysed.</p> <p>Test must be performed within 2-4 hours of the sample being taken.</p> <p>Interferences: clots in the sample, heparin.</p> <p>** Test not accredited; this does not invalidate the results</p>
Insulin **	Blood	Serum	1.2 mL	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Interleukin 2 Receptor Alpha / IL2 / CD25	Blood	Serum	2.7 mL		SJH	Immunology	
Interleukin 6 / IL6	Blood	Serum	2.7 mL		SJH	Immunology	
Intermediary metabolites: pyruvate, lactate, (β-hydroxybutarate) **	Blood	PCA tube & Flouride tube	0.5 mL	2-3 weeks	RVI Newcastle upon Tyne	Metabolic Laboratory	Contact CHI at Temple Street Biochemistry department before collection to obtain LI-BIO-0021 for instructions on sample collection and to obtain PCA sample tube. Collect sample for pyruvate as

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							per LI-BIO-0021 and collect a paired sample in a fluoride tube for glucose, lactate & b-OHB analysis. Send samples STAT to lab Ensure weights are recorded as per LI-BIO-0021, separate and freeze PCA sample. Analyse glucose lactate and ketones on the fluoride sample STAT, or freeze for analysis by CHI at Temple Street.
Intrinsic Factor Antibodies	Blood	Serum	1.2ml	28 days	Mater Misericordiae University Hospital (MMUH)	Immunology	
Intrinsic Factor Screen	Blood	Sodium citrate	3 mL x 2	Batch tested every 2 wks	CHI at Crumlin	Haematology	If extrinsic factor is also required an extra 2x3mls green Sodium citrate bottles is needed. Only to be requested if basic coag screen requested.
Investigations for sending to IBTS - by Blood Transfusion Lab only (ABO, RhD, Compatibility Testing, Antibody Identification, etc. as required)	Blood	4.5mL red label EDTA KE for blood transfusion only	5 - 10 mL	2 wks	IBTS	Blood Transfusion	Please use PDA to label form and sample.
Iodine	Urine	Universal container	5ml	Contact referral laboratory	Addenbrook Hospital	Metabolic Laboratory	
Iron /Transferrin Saturation	Blood	Lithium	1.2ml	1 wk	Beaumont	TDM	TIBC no longer analysed

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		heparin					
Islet-cell antibodies IA2 abs. Requested as part of Diabetes annual screen along with GAD ab and ZnT8 ab	Blood	Serum	5 mL	3 wks	Royal Devon and Exeter Hospital	Immunology	
Isohaemagglutinins	Blood	4.5mL red label EDTA KE for blood transfusion only	4.5 mL	1 wk	CHI at Crumlin	Blood Transfusion	2 smaller volumes will not be accepted. Signature of person taking sample must be written on bottle
Jak2 TEST	Blood	EDTA	2.7 mL	28 days	SJH	Haematology	
JC Virus PCR	Blood Urine (fresh)	Serum Universal container	1.2 mL	8 days	NVRL	Microbiology	
Joint AspirateC/S	Joint aspirate	Sterile universal	205 mL	Gram stain on LIS same day Culture: 5 days (min)	CHI at Temple Street	Microbiology	Transport to the laboratory immediately. For fastidious organisms, culture may take up to 10 days
Kepra / Levetiracetam	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	Chalfont Centre for Epilepsy	TDM	
Keratan Sulphate	Urine	Universal container	5ml		Academic Medical Centre, Amsterdam	Metabolic Laboratory	
Kingella kingae PCR	Fluid Aspirates Pus Tissue	Sterile container for CSF, Body Fluids and Other	Fluid: 0.5ml Aspirates; 0.5ml Pus; 0.5ml Representative tissue sample	1 working day	CHI at Temple Street	IMSRL	Samples should be collected as close to onset as possible and prior to administration of antibiotics. Store samples at 4°C if delay in transportation. Indications for testing:

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							Osteomyelitic/septic arthritis : only if < 5years
Lactate - BLOOD**	Blood	Fluoride	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	STAT. Avoid haemolysis & venous stasis ** Test not accredited; this does not invalidate the results
Lactate - CSF**	CSF	Fluoride	0.5 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Lactate dehydrogenase (LDH)**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Avoid haemolysis ** Test not accredited; this does not invalidate the results
Lamictal (Lamotrigine)	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	Chalfont Centre for Epilepsy	TDM	
LDL cholesterol**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Calculated value. Invalid if Triglyceride level > 4.0 mmol/L ** Test not accredited; this does not invalidate the results
Lead	Blood	Trace Metal Tube	1.2ml	4 wks	Belfast Royal Victoria	Biochemistry	
Legionella Antigen	Urine	Urine		1 wk	Mater Misericordiae University Hospital (MMUH)	Microbiology	
Legionella serology	Blood	Serum	3 mL	2 wks	Eurofins Biomnis	Microbiology	
Leishmania	Blood	Serum	1 mL	28 days	Hospital for Tropical Diseases	Microbiology	
Leptospirosis Serology (Weil's disease)	Blood	Serum	1.2ml	7 days	NVRL	Microbiology	
Leucocyte and Platelet	Blood	Serum	5 mL	Contact	NHS Blood &	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Antibodies				referral laboratory	Transplant		
LGI1 antibodies	Blood	Serum/ CSF	1.2ml	4 weeks	Oxford University Hospital (Churchill)	Immunology	
LH / Luteinising Hormone	Blood	Serum	1.2ml	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Lignocaine / Lidocaine	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	Eurofins Biomnis	Biochemistry	
Lipase	Blood	Serum	1ml	2 weeks	Eurofins Biomnis	Biochemistry	
Lipid profile**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Fasting sample preferred but not essential ** Test not accredited; this does not invalidate the results
Lipoprotein Lipase Post Heparin	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available
Lipoprotein profile Lipid **	Blood	Lithium Heparin / Serum	1.2 mL	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Listeria monocytogenes PCR**	CSF(blood, body fluids, others - upon consultant request)	EDTA Sterile container	Blood ; 0.5-1.0 mL CSF : 0.5 mL Body Fluids/Other : Varies	On samples received by 11.00, Result available between 16.00-17.00 same day	CHI at Temple Street	IMSRL	** Test not accredited Samples should be collected as close to onset as possible and prior to administration of antibiotics. Store samples at 4°C if delay in transportation Indications for testing: 1. Suspected meningitis in a patient with a positive BC for listeria

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							2. Brainstem encephalitis 3. Early-onset meningitis in a neonate with Listeria recovered from a Mater Misericordiae University Hospital (MMUH)nal site (eg. blood, placenta, HVS) 4. Meningitis (high WBC in CSF) in pregnant women with no other organism found 5. Meningoencephalitis in the immunocompromised patient 6. Other - as discussed with Consultant Microbiologist in Temple Street.
Listeria PCR	Blood	Serum	1.2ml	14 days	HPA Colindale	Microbiology	
Lithium	Blood	Serum	2 mL	1 wk	Beaumont	Toxicology	Give time post dose
LKM antibodies / Liver Kidney Microsomal antibodies	Blood	Serum	1.2ml	28 days	Mater Misericordiae University Hospital (MMUH)	Immunology	
Infectious Mononucleosis screen**	Blood	EDTA	1.6 mL	3 hrs for samples received within routine hours. 24 hrs for samples outside of routine hours	CHI at Temple Street	Haematology	Sufficient volume in FBC sample. Grossly haemolysed samples unsuitable for analysis ** Test not accredited; this does not invalidate the results
Lupus Anticoagulant screen	Blood	Sodium citrate	1.4 mL x 2	Batch tested monthly	CHI at Crumlin	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Lyme Disease (Borrelia burgdorferi)	Blood	Serum	3 mL	8 days	NVRL	Microbiology	
Lymphocytic choriomeningitis virus (LCM)	CSF	Sterile Universal container	1.2ml	Contact referral laboratory	HPA Colindale	Microbiology	Discuss with Consultant Microbiologist before requesting.
Lysosomal enzymes / White Cell Enzymes	Blood	EDTA	5 mL Samples less than 3mls will be rejected by referral lab.	4 wks	St Mary's Hospital Manchester	Metabolic Laboratory	Cannot be taken on Fridays. Take Mon to Wed. Send Thursday if the Clinician accepts risk of transit delay. Unsuitable if received on Friday. Assay includes: Glycoaspariginase Hexosam'ase B (A+B) Mannosidase-B MUGS Glucuronidase-B Galactosidase-B Mannosidase-A Galactosidase-A Fucosidase-A Acid Esterase Aryl Sulphatase-A Glucosidase-B Sphingomyelinase (N-Pick A&B) Galactocerebro'ase-B N-Acetylgalactosaminidase Chitotriosidase
Magnesium - BLOOD**	Blood	Lithium	1.2 mL	2 hr	CHI at Temple	Biochemistry	Avoid haemolysis

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		Heparin			Street		** Test not accredited; this does not invalidate the results
Magnesium - URINE	Urine (spot)	Universal container	5ml	1 wk	CHI at Crumlin	Biochemistry	
Malaria**	Blood	EDTA	1.6 mL	4 hours	CHI at Temple Street	Haematology	Sufficient volume in FBC sample. ** Test not accredited; this does not invalidate the results
Manganese	Blood	Metal free / Lithium Heparin Trace metal analysis tube	2 mL	4 wks	Belfast Royal Victoria	Biochemistry	Minimum volume 0.5ml Wholeblood. Take separate bottle to zinc, selenium, copper etc requests.
Measles IgG	Blood	Serum	2ml		CHI at Temple Street	Microbiology	
Measles PCR - CSF	CSF	Sterile container	300µl	10 days	NVRL	Microbiology	
Measles Serology	Blood	Serum	1.2ml	10 days	NVRL	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Meningitis / Encephalitis Panel on FilmArray (For laboratory ONLY)	CSF	Sterile Universal container	300 ul	8 hrs (routine working day only)	CHI at Temple Street	Microbiology	Testing must be ordered by the Consultant Microbiologist or Microbiology SpR. Testing is only available during routine working hrs Monday to Friday.
Mercury	Urine	Universal Container			Belfast Royal Victoria	Biochemistry	Measurement of mercury in URINE is preferred where there is exposure to mercury vapour or inorganic mercury salts

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Mercury	Blood	Metal free / Lithium Heparin Trace metal analysis tube		4 wks	Belfast Royal Victoria	Biochemistry	Measurement of mercury in BLOOD is preferred where there is exposure to organic mercury
Metanephrines (Plasma)	Blood	EDTA	2.7ml	3 wks	Freeman Hospital, Newcastle	Biochemistry	STAT to lab. Must be fasting sample
Metanephrines (Urine)	Urine (spot)	Universal container	5 -10 ml	3 wks	Beaumont	Biochemistry	
Methadone (Qualitative analysis)	Urine	Universal Container	Min 1 mL	2 wks	Beaumont	Toxicology	Screening test only
Methadone (Quantitative analysis)	Blood	Serum	1.2ml	1 -2 wks	Chalfont Centre for Epilepsy	TDM	
Methaemoglobin**	Blood	safePICO Arterial Blood Sampler Aspirator	1 .5 mL	15 min	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Methotrexate	Blood	Serum	2 mL	1 wk	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Mitochondrial Antibodies	Blood	Serum	1 mL	2 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
MMR (Measles / Mumps / Rubella) Antibodies	Blood	Serum	3 mL	9 days	NVRL	Microbiology	Store samples at 4 ^o C if delay in transportation to the laboratory
MOG Antibodies	Blood	Serum	1.2ml	3 wks	Oxford University	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
	CSF				Hospital (Churchill)		
Molecular Genetics requests	Blood	EDTA	5 mL Can receive less from infants	Contact referral laboratory	CHI at Crumlin	Genetics	CHI Crumlin Genetic consent form must accompany the sample. Form needs to be signed and dated by consenting parent and consultant.
Mouth C/S	Mouth swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
MPS Mucopolysaccharides / Oligosaccharides / Sialic Acids / Glycoaminoglycans (GAGs)	Urine (spot)	Universal container	5-10 mL	4 wks	St Mary's Hospital Manchester	Metabolic Laboratory	
MRGNB Screen	Faeces/rectal swab ET secretions (if intubated)	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
MRSA screen	T/S, N/S, Axilla/S, Groin/S, Perineal/S (and umbilicus in neonate)	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Please indicate on request form if patient was previously positive. Store samples at 4° C if delay in transportation to the laboratory
Multimer Analysis Only	Blood	Sodium citrate	3 mL	Contact referral laboratory	CHI at Crumlin	Haematology	
Multiple Sulphatase deficiency - skin biopsy	Skin biopsy	Sterile Universal	Skin biopsy	Contact referral laboratory	St Mary's Hospital Manchester	Metabolic Laboratory	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Mumps PCR - URINE	Urine (spot)	Sterile container		10 days	NVRL	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Mumps swab PCR & Serology	Oral Fluid (Special swab available in microbiology)	Oracol Swab		10 days	NVRL	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Muscle for Routine enzyme Histochemistry	Muscle biopsy	Fresh/moist saline gauze in sterile container	1 cm ³	1 month	Beaumont	Histology	Prior arrangement with laboratory. At least 24 hr notice required. Send immediately to the laboratory. Must arrive before 15.00.
Muscle specific tyrosine kinase (MUSK) antibodies	Blood	Serum	1.2ml	4 wks	Oxford University Hospital (Churchill)	Immunology	
Mutation analysis for tyrosinaemia type 1	Blood	EDTA	5 mL	Contact referral laboratory	Centogene, Rostock	Genetics	
Mycophenlate Mofetil (MMF)	Blood	EDTA	1.6 mL	Contact referral laboratory	Harefield Hospital	Immunology	
Mycoplasma pneumoniae IgG and IgM - BLOOD	Blood	Serum	1.2ml	9 days	NVRL	Microbiology	Store at 4°C if delay in transportation to the laboratory
Mycoplasma pneumoniae PCR (Blood, CSF)	Blood CSF	EDTA	1.2ml	Contact referral laboratory	University of Warwick	Microbiology	Sample type depends on site of infection
Myeloperoxidase Proteinase 3 (MPO) Antibodies	Blood	Serum	1.2ml	10 days	Mater Misericordiae University Hospital (MMUH)	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Myoglobin - BLOOD	Blood	Serum / Lithium Heparin	1.2 mL	1 wk	Eurofins Biomnis	Biochemistry	
Myoglobin - URINE	Urine	Universal Container	5-10ml	2 wks	Northern General Hospital, Sheffield	Biochemistry	
Myositis Antibody Panel	Blood	Serum	3-5ml		SJH	Immunology	
Nail Clippings Fungal culture, Direct Microscopy	Nail clippings	Sterile universal	Representative sample	14-28 days	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Nail swab C/S	Nail swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Nasal Swab C/S (query meningococcal infection)	Pernasal swab	Pernasal swab (available from the laboratory)	N/A	48-72 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
NCL BLOOD (Neuronal Ceroid Lipofuncinosis) / Palmitoyl Protein Thioesterase (PPT) / TPP 1 Tripeptidyl Peptidase 1	Blood	EDTA Lithium Heparin	4 mL 2.7 mL	4 - 8 wks	GOSH	Metabolic Laboratory	Special instructions and contact details available in black folder in dispatch
NCL SKIN	Skin biopsy	EM (Trumps) fixative (available from Histology)		4 - 8 wks	GOSH	Metabolic Laboratory	
Needle stick Injury	Blood	Serum	5 mL	Urgent: 1 hr Routine: 1-3 days	NVRL	Microbiology	If testing required out of hours clinician must contact VRL on- call staff. Phone 021 4521935. Leave your name, contact number, hospital name and

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							reason for calling. Contact VRL on-call clinician.
<i>Neisseria gonorrhoea</i> PCR	Eye swab	Gene Probe APTIMA swab (available in Micro lab)	N/A	7 days (additional time required for confirmation of reactive samples)	NVRL	Microbiology	
<i>Neisseria gonorrhoea</i>C/S, Gram	Eye swab	Transport swab	N/A	Gram stain on LIS same day Culture: 48-72 hrs	CHI at Temple Street	Microbiology	Store samples at 4 ^o C if delay in transportation to the laboratory
<i>Neisseria meningitidis</i> Grouping PCR	Blood CSF Body fluids, others	EDTA Sterile container	Blood ; 0.5-1.0 mL CSF : 0.5 mL Body Fluids/Other : Varies	Grouping results on positive samples may be available the same day or on the next routine working day.	CHI at Temple Street	IMSRL	Test is performed on <i>Neisseria meningitidis</i> Screening PCR positive samples only.
<i>Neisseria meningitidis</i> identification (biochemical and PCR^{***}), grouping (immunological and PCR^{***}), typing^{**} & susceptibility testing.	Purified isolate	Purified isolate on chocolate agar slope or on charcoal transport swab	N/A	Identification & grouping - 5 working days (invasive disease-associated isolates), 10 working days (non-invasive	CHI at Temple Street	IMSRL	** Test not accredited; this does not invalidate the results †PCR based identification and grouping of <i>Neisseria meningitidis</i> group B, C, W and Y is accredited. Send purified isolate on slopes

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				isolates); Susceptibility testing carried out quarterly (urgent samples processed on request) and results are available on request			ASAP after overnight incubation. Suspected cluster/outbreak or unusual clinical or epidemiological queries processed on request following discussion with the medical microbiologist on clinical service in CHI at Temple Street
<i>Neisseria meningitidis</i> Screening PCR**	Blood CSF Body fluids, others	EDTA Sterile container	Blood ; 0.5-1.0 mL CSF : 0.5 mL Body Fluids/Other : Varies	On samples received by 11.00, Result available between 16.00-17.00 same day	CHI at Temple Street	IMSRL	** Blood & CSF: Test not accredited Samples should be collected as close to onset as possible and prior to administration of antibiotics. Store samples at 4°C if delay in transportation
<i>Neisseria meningitidis</i> vaccination serology	Blood	Serum	Blood 1 mL	Variable. May take 2-6 months	Medical Microbiology Partnership	Microbiology	If serum is not available a plasma sample may be processed. This must be clearly marked on the form.
Neonatal Alloimmune Neutropenia	Blood	EDTA	Maternal 6 mL EDTA & 6 mL serum Paternal 6 mL EDTA Neonatal 1 mL EDTA	Contact referral laboratory	NHS Blood & Transplant	Immunology	Discuss with Consultant Haematologist
Neonatal Autoimmune	Discuss with	Contact lab for	Check with	Contact	NHS Blood &	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Neutropenia	Consultant Haematologist	advice	laboratory	referral laboratory	Transplant		
Netilmycin / Netromycin / Netillin	Blood	Serum	1.2ml	Contact referral laboratory	Beaumont	Microbiology	
Neuro Myelitis Optical (NMO) Antibodies / Aquaporin 4 abs	Blood	Serum	5 mL	3 wks	Oxford University Hospital (Churchill)	Immunology	
Neuron Specific Enolase (NSE)	Blood	Serum	2 mL	2 wks	Northern General Hospital, Sheffield	Immunology	Avoid haemolysis
Neurotransmitters (CSF amine / monamine metabolites, 5-Methyltetrahydrofolate (5-MTHF), Pterins and PLP / Homovanillic Acid / 5-HIAA / CSF Pterins / Tetrahydrobiopterin / Dihydrobiopterin / Neopterin - Total / HVA:5HIAA Ratio)	CSF	Tubes made up by dispatch lab staff	2ml total	4-8 wks	Institute of Neurology, London	Immunology	MUST be prearranged with Dispatch. Collect CSF in tubes provided by Dispatch. Samples need to be snap frozen at bedside on dry ice provided. MUST take CSF in PROPER sequence. MUST be taken before any other test request.
Newborn Bloodspot Screening	Blood	Dried blood spot card	Fill all 4 circles through from back of card (heel prick sample)	2-6 days Mon-Fri	CHI at Temple Street	NNBSL	Air dry sample for at least 2 hrs prior to transport. Do not use latex gloves. Avoid heat & humidity. Fill in all demographic fields on NBS card. State feed type and if

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							<p>baby transfused.</p> <p>Samples received in the laboratory before 12.00 Mon-Fri are analysed that day.</p> <p>Turnaround time quoted is for normal results. Positive/abnormal results are phoned and urgent action initiated as appropriate.</p> <p>For further information, visit www.newbornscreening.ie</p>
NMDA Receptor antibodies	Blood	Serum	1.2ml	3 wks	Oxford University Hospital (Churchill)	Immunology	Serum is the preferred sample. CSF can be sent with serum if requested by clinician
Non Esterified Free Fatty Acids (NEFA)	Blood	Serum	1.2ml	2 wks	RVI Newcastle upon Tyne	Metabolic Laboratory	
Non ketotic Hyperglycinaemia	Blood	EDTA	5ml	Contact referral laboratory	Birmingham Children's Hospital	Metabolic Laboratory	
Norovirus	Faeces	Sterile container	Representative sample	8-10 days (seasonal variation)	NVRL	Microbiology	<p>Contact NVRL if urgent.</p> <p>Store samples at 4°C if delay in transportation to the laboratory</p>
Norovirus (Outbreak Investigation)	Faeces	Sterile container	Representative sample	8 hr	CHI at Temple Street	Microbiology	Testing for Norovirus in-house on the GeneXpert must be ordered by the Consultant

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							Microbiologist or Microbiology SpR
Oestradiol / Oestrogen	Blood	Serum	1.2ml	2 wks	Rotunda	Biochemistry	
Oligoclonal banding (Albumin CSF Immunoglobulins CSF)	CSF AND Blood	Serum	0.7 mL 1.3 mL	3 wks	Northern General Hospital, Sheffield	Immunology	Clotted MUST also be taken on the same day. Please also request IgG index
Organic acids (qualitative)	Urine (spot)	Universal container	5 mL	2d - 28d Urgent: 1 working day	CHI at Temple Street	Metabolic Laboratory	<p>Clinical details required for interpretation and appropriate follow-up.</p> <p>Requests for urgent tests MUST be made before 09.30 Mon-Fri. Discuss with Metabolic Lab ext 4458.</p> <p>FOR REFERRING LABS:</p> <ol style="list-style-type: none"> 1. Urine pH should be measured. Where the pH\geq8.5, microbial contamination is suspected, continue to dispatch urine sample to CHI at Temple Street and please request a repeat urine sample on the patient. 2. Please note that urine samples with a creatinine concentration bellow 0.4 mmol/L are too dilute for accurate analysis. When a dilute samples is received it is analysed to detect gross abnormalities and a repeat sample is requested.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							3. Freeze promptly, no preservative. If any delay in freezing store at 4o C up to 4-6 hours (make note of delay on request form).
Organic acids (quantitative)	Urine (spot)	Universal container	5 mL	2-21 days	CHI at Temple Street	Metabolic Laboratory	For MMA, EMA Glutarate: analysed once per week. FOR REFERRING LABS: 1. Urine pH should be measured. Where the pH≥8.5, microbial contamination is suspected, continue to dispatch urine sample to CHI at Temple Street and please request a repeat urine sample on the patient. 2. Please note that urine samples with a creatinine concentration bellow 0.4 mmol/L are too dilute for accurate analysis. When a dilute samples is received it is analysed to detect gross abnormalities and a repeat sample is requested. 3. Freeze promptly, no preservative. If any delay in freezing store at 4o C up to 4-6 hours (make note of delay on request form). Fresh urine, freeze with no

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							preservative.
Organic acids**	CSF	Universal container	1 ml	2 wks	CHI at Temple Street	Metabolic Laboratory	** Test not accredited
Orotic acid (part of purine pyrimidine screen) / Orotidine	Urine	Universal container	5-10 mL	4 wks	Laboratorium Erfelijke Metabole Ziekten, Maastricht	Metabolic Laboratory	Must be accompanied by a Maastricht request form
Osmolality - blood	Blood	Lithium Heparin	1.2 mL	4-5 hrs	CHI at Temple Street	Biochemistry	
Osmolality - urine	Urine (spot)	Universal container	1 mL	4-5 hrs	CHI at Temple Street	Biochemistry	Interpret in relation to plasma sodium
Ova & Parasites (O/P)	Faeces	Sterile container	Representative sample	2 wks	Public Health Lab (PHL), Cherry Orchard Hospital	Microbiology	Fresh sample essential for examination for Trophozoites. Transport immediately to the laboratory. Inclusion of comprehensive clinical details on the request form is essential. Specimens will be rejected in the absence of appropriate details.
Ovarian Antibodies	Blood	Serum	1.2ml	2 wks	Northern General Hospital, Sheffield	Immunology	
Oxalate Plasma	Blood	EDTA	2 mL	3 wks	UCLH, London	Biochemistry	
Oxalate Urine	Urine - spot or 24 hr collection	Universal / 24 hour container	5-10 mL	2 wks	UCLH, London	Biochemistry	
Oxidative burst (replaces Neutrophil Function (NBT) test)	Blood	EDTA	1.6 mL	2 wks	SJH	Immunology	
Oxidised LDL	Blood	Serum	1.2ml	2 weeks	Eurofins Biomnis	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Oxysterol	Blood	EDTA	1-2 mL	Contact referral laboratory	St Mary's Hospital Manchester	Metabolic Laboratory	
Paracetamol**	Blood	Lithium Heparin / Serum	1.2 mL	Up to 2 hrs	CHI at Temple Street	Biochemistry	State time of ingestion on request form if known.** Test not accredited; this does not invalidate the results
Parasitology Serology - please specify	Blood	Serum	1.2ml	28 days	Hospital for Tropical Diseases	Microbiology	Please specify parasites
Parathyroid Antibodies / Gonadal Antibodies / Ovarian Antibodies / Testicular Antibodies	Blood	Serum	1.2ml	2 wks	Northern General Hospital, Sheffield	Immunology	
Parathyroid Hormone (PTH)**	Blood	Serum	1.2 mL	3 days	CHI at Temple Street	Biochemistry	Time sensitive sample. Send to Biochemistry laboratory STAT ** Test not accredited; this does not invalidate the results
Parietal cell antibodies	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Paroxysmal Nocturnal Haemoglobinuria (PNH)	Blood	EDTA	1.2 mL	1 wk	CHI at Crumlin	Haematology	
Parvovirus (B19) Serology	Blood	Serum	1.2ml	7 days	NVRL	Microbiology	
Parvovirus PCR	Blood	EDTA	1.6ml	9 days	NVRL	Microbiology	
Penile swab C/S	Penile swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Peritoneal Fluid C/S	Peritoneal fluid Peritoneal swab	Sterile container Transport swab	2-5 mL N/A	Up to 5 days	CHI at Temple Street	Microbiology	For patient on peritoneal dialysis see CAPD
Peritoneal fluid chemistries** (albumin / total protein / triglyceride / LDH)	Peritoneal fluid	Plain container	3 mL	4 hrs	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results Sample analysed for albumin/total protein/triglyceride/LDH Collect blood sample at same time for total protein/albumin/LDH
PFA- 100 Platelet Function Assay	Blood	Sodium citrate	2 x 3ml	2 wks	SVUH	Haematology	
PFT (Platelet Function Test)	Blood	Sodium citrate	3 mL x 6	1 wk	CHI at Crumlin	Haematology	This test is done BY APPOINTMENT ONLY Organise through haematology
Phenobarbitone**	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Phenylalanine / Tyrosine	Blood	Lithium Heparin / Serum	0.5 - 1.2 mL	2-3 days	CHI at Temple Street	Metabolic Laboratory	Referring labs: separate prior to dispatch to CHI at Temple Street
Phenylalanine / Tyrosine	Blood	Dried blood spot card	2 full circles	3-8 days	CHI at Temple Street	Metabolic Laboratory	Air dry for 2 hrs. Avoid heat & humidity.
Phenytoin (Epanutin)**	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Therapeutic range is a guide only. Individual patient responses may exhibit toxic symptoms within reference

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							range. ** Test not accredited; this does not invalidate the results
Phosphate**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Interpret in relation to plasma calcium level ** Test not accredited; this does not invalidate the results
Phosphate**	Urine (spot)	Universal container	2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Phosphatidyl Ethanol	Blood	EDTA	5ml		Eurofins Biomnis	Biochemistry	
Phox 2B Gene / Neuroblastoma Phox	Blood	EDTA	5 mL	Contact referral laboratory	CHI at Crumlin	Genetics	
Phyllocontin	Blood	Lithium Heparin / Serum	1 mL	Contact referral laboratory	Beaumont	TDM	
Phytanic acid / Pristanic acid (Peroxisomal disorders)	Blood	EDTA	2 mL	5 wks	St Mary's Hospital Manchester	Metabolic Laboratory	Preferably take Mon - Wed. And Thur before 2pm to ensure it makes collection to UK.
Pipecolic acid	Blood	Lithium Heparin	1.2ml	4 - 8 wks	Laboratorium Erfelijke Metabole Ziekten, Maastricht	Biochemistry	
PIVKA	Blood	Serum	2ml	Contact referral laboratory	St Thomas' Hospital	Haematology	
PKU Phenyketouria Mutation, PAH Mutation	Blood	EDTA	2.7 mL	Contact referral laboratory	Southmead Hospital, Bristol	Genetics	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
PLAP	Blood CSF	Serum	4 mL 1 mL	Contact referral laboratory	Charing Cross Hospital, London	Biochemistry	Minimum 0.5 ml CSF required
Plasmalogens	Blood	EDTA	4 mL	2 months	St Mary's Hospital Manchester	Metabolic Laboratory	Cannot be taken on Fridays. Take Mon to Wed. Send Thursday if the Clinician accepts risk of transit delay. Unsuitable if received on Friday.
Plasminogen Activator Inhibitor-1	Blood	Sodium citrate	2.7 mL	Contact referral laboratory	Royal Free Hospital, London	Haematology	Place sample immediately on crushed ice directly after venopuncture. The sample should be then double spun, plasma separated and frozen and then shipped frozen on dry ice to UK.
Platelet Aggregation Studies	Blood	Sodium citrate	3 mL x 2	1 wk	CHI at Crumlin	Haematology	This test is done BY APPOINTMENT ONLY. Organise through haematology
Platelet antibodies	Blood	Serum	1.2ml	2 wks	IBTS	Blood Transfusion	
Platelet association Antigen (IgG)	Blood	Serum	2.7 mL x 4	2 wks	IBTS	Blood Transfusion	
Platelet Immunophenotyping	Blood	Sodium citrate	1.4 mL x 2	1 wk	CHI at Crumlin	Haematology	
Platelet Nucleotides	Blood	CTAD(available from Haematology lab)	3 mL x 2	28 days	SJH	Haematology	Protect from light
Pleural Fluid C/S	Pleural fluid	Sterile	2-5 mL	48-96 hrs	CHI at Temple	Microbiology	Store samples at 4° C if delay

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		container			Street		in transportation to the laboratory
Pleural Fluid Chemistries** (Glucose, Protein, Albumin, LDH)	Pleural fluid	Fluoride / Plain	1.2 mL	4 hrs	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results Analysed for glucose, protein, albumin, LDH
Pneumococcal Titres	Blood	Serum	1.2ml	6 weeks	Medical Microbiology Partnership	Microbiology	
Pneumococcal Urinary Antigen	Urine	Universal Secondary Container	5ml	6 weeks	Mater Misericordiae University Hospital (MMUH)	Microbiology	
Polio (Blood)	Blood	Serum	1.2ml	21 days	HPA Colindale	Microbiology	
Polio (Faeces)	Faeces	Sterile Container		Contact referral laboratory	NVRL	Microbiology	
Polyols / Alpha amino adipic semialdehyde (AASA)	Urine	Universal container	5 mL	Contact referral laboratory	VU Medical Centre Amsterdam	Biochemistry	
Polyoma BK Virus	Blood Urine (fresh)	EDTA/Serum Sterile container	1.2 mL	9 days	NVRL	Microbiology	
Polyoma Virus (JC)	Blood Urine (fresh)	Serum	1.2 mL	9 days	NVRL	Microbiology	
Porphyryns	Blood Urine (24 hr) / Urine (spot)	Lithium Heparin EDTA	1.2mL 2 mL	3 wks	SJH	Biochemistry	Protect all samples from light.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
	Faeces (random)						
Posaconazole	Blood	Serum	1.2ml		SJH		
Potassium**	Blood	Lithium Heparin	1.2 mL	2 hrs (up to 4 hrs for non-urgent requests)	CHI at Temple Street	Biochemistry	Avoid haemolysis . Do not take from limb with IV infusion. Delay in separation may falsely elevate levels. Do not refrigerate whole blood. Contamination with EDTA (from FBC tube) falsely elevates levels. ** Test not accredited; this does not invalidate the results
Potassium**	Urine (spot)	Universal container	2ml	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
PR3 [Proteinase 3 antibodies]	Blood	Serum	1.2ml	10 days	Mater Misericordiae University Hospital (MMUH)	Immunology	
Primidone	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	Chalfont Centre for Epilepsy	TDM	
Procalcitonin**	Blood	Lithium Heparin / Serum	1.2ml	Same day	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Procollagen III	Blood	Serum	5 mL	3wks	Eurofins Biomnis	Biochemistry	
Proinsulin	Blood	Serum	1.2ml		Royal Surrey County Hospital	Biochemistry	
Prolactin	Blood	Lithium Heparin /	1.2ml	2 wks	Mater Misericordiae	Biochemistry	Avoid stress. Prolactin secretion is dopamine

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		Serum			University Hospital (MMUH)		dependent. Macroprolactin screening is added if prolactin is >550Miu/l in males, >600Miu/l in females
Propranolol	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	Eurofins Biomnis	Biochemistry	
Protein C	Blood	Sodium citrate	1.4 mL	3 hrs	CHI at Crumlin	Haematology	Samples must be filled to the line marked on the side of the tube. Overfilled or underfilled samples will give inaccurate results and will not be analysed. Test must be performed within 2-4 hours of the sample being taken. Interferences: clots in the
Protein electrophoresis	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available
Protein electrophoresis	Urine (spot)	Universal container	5ml	Contact referral laboratory	Northern General Hospital, Sheffield	Immunology	
Protein S (Free)	Blood	Sodium citrate	1.4ml x 2	1 month. 2 hours for Urgent	CHI at Crumlin	Haematology	
Protein S Total Elisa / Free Latex / Total Protein S	Blood	Sodium citrate	1.4 mL x 2	up to 1 month	CHI at Crumlin	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Protein**	CSF	CSF tube	0.5 mL	2 hr	CHI at Temple Street	Biochemistry	Premature and low birth weight neonates may have higher CSF protein than full term neonates ** Test not accredited; this does not invalidate the results
Protein/Creatinine Ratio**	Urine (spot)	Universal container	2 mL	2 hr	CHI at Temple Street	Biochemistry	Ranges based on first morning specimen ** Test not accredited; this does not invalidate the results
Prothrombin G20210A Genotype Analysis	Blood	EDTA	2.7 mL	28 days	SJH	Haematology	
Pseudo cholinesterase / Pseudo cholinesterase phenotype / Suxamethonium	Blood	Serum & EDTA	3 mL3 mL	Contact referral laboratory	Southmead Hospital, Bristol	Biochemistry	
Pseudomonas Antibodies	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available
PT (Prothrombin Time)**	Blood	Sodium citrate	1.4 mL	2 hrs	CHI at Temple Street	Haematology	Samples must be filled to the line marked on the side of the tube. Overfilled or underfilled samples will give inaccurate results and will not be analysed. Test must be performed within 2-4 hours of the sample being taken. ** Test not accredited; this

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							does not invalidate the results
PTH Related Peptide	Blood	EDTA + Aprotinine tube (contact Dispatch)	1.6ml	3 wks	Eurofins Biomnis	Biochemistry	Prearrange with Dispatch staff. Special tube containing EDTA and Aprotinine available from dispatch.
Purine / Pyrimidines	Urine (spot)	Universal container	5-10 mL	4 wks	Laboratorium Erfelijke Metabole Ziekten, Maastricht	Metabolic Laboratory	Must be accompanied by a Maastricht request form
Pus C/S	Pus	Sterile container	Representative sample	48-120 hrs (Gram stain on LIS after 24 hrs)	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Pyruvate Dehydrogenase	Skin biopsy	Sterile Universal Container	Skin biopsy	Contact referral laboratory	Oxford University Hospital (Churchill)	Genetics	
Pyruvate Kinase	Blood	EDTA	2 mL	Contact referral laboratory	Kings College Hospital, London	Haematology	
Q Fever	Blood	Serum	2ml	Contact referral laboratory	PHE Porton Down	Microbiology	Referral form available in Microbiology
Quantiferon [TB blood]	Blood	Special tubes in dispatch		12-14 days	Mater Misericordiae University Hospital (MMUH)	Microbiology	Tubes available from Dispatch. Do not refrigerate samples. Samples must be in dispatch by 14.00 Monday to Thursday only . Contact dispatch ext 4278
Red Cell Gene Panel	Blood	EDTA	5 ml	Contact referral	Kings College Hospital, London	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				laboratory			
Red Cell Phenotyping Organise through Blood Transfusion Laboratory	Blood	4.5mL red label EDTA KE for blood transfusion only	4.5 mL	2 - 4 wks	IBTS	Blood Transfusion	Please use PDA to label form and sample.
Red cell Protoporphrin	Blood	EDTA	2 mL	3 wks	SJH	Biochemistry	
Renal biopsy for Beaumont	Renal biopsy needle core	Fresh/moist saline gauze in sterile container	N/A	2 weeks	Beaumont	Histology	Prior arrangement with the laboratory. 24 hours notice is required. Send immediately to the laboratory. Must arrive before 15.00
Renal Stones	Renal stone	Universal container	Renal stone	1 wk	UCLH, London	Biochemistry	
Renin	Blood	EDTA	2 mL	3 wks	Charing Cross Hospital, London	Biochemistry	
Reticulocyte count**	Blood	EDTA	1.6 mL	2 hrs (inpatients) 24 hrs (out patients). URGENT FBC 1HR. Urgent FBC specified as those from ICU, theatre, Casualty and Haematology Clinic or if phoned call is	CHI at Temple Street	Haematology	Sufficient volume in FBC sample. ** Test not accredited; this does not invalidate the results

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				received to say the sample is urgent			
Retinol-binding protein	Urine (spot)	Universal container	3-5 ml	2 wks	Northern General Hospital, Sheffield	Immunology	
Rheumatoid Factor	Blood	Serum	1.2 mL	1 wk	Mater Misericordiae University Hospital (MMUH)	Immunology	
Rickettsiae Spotted fever serology	Blood	Serum	3 mL	Contact referral laboratory	PHU Porton Down	Microbiology	Clinician must fill out special questionnaire available in Micro.
Rifampicin	Blood	Serum	1.2ml	2 wks	Southmead Hospital, Bristol	Microbiology	
Ro antibodies	Blood	Serum	1.2 mL	3 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Rocky Mountain Spotted Fever	Blood	Serum	3 mL	Contact referral laboratory	HPA Colindale	Microbiology	Clinician must fill out special questionnaire available in Micro.
Routine surgical biopsy	Any	In 10% formalin	N/A	3-7 days	CHI at Crumlin Beaumont (Neurosurgery samples)	Histology	If special stains or immunohistochemistry (external test) required, turnaround time is 10-14 days
<i>S.aureus/ Group A streptococcal PCR</i>	Fluid Aspirates Pus Tissue Bone	Sterile container	Fluid: 0.5ml Aspirates 0.5ml Pus 0.5ml Representative	1-3days	CHI at Temple Street	IMSRL	Where possible, samples should be collected prior to starting antimicrobial therapy. Store samples at 4°C if delay in transportation to laboratory is

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
			tissue sample Representative bone sample				likely. Indications for testing: Osteomyelitis, septic arthritis, deep tissue abscess, pus/fluid collection in normally sterile site.
Salicylate	Blood	Serum	1.2ml		Beaumont	Toxicology	
SARS - CoV-2 / Covid testing	NPA/ NPS	NPA Trap or UTM swab		8-12 hrs	CHI at Temple Street	Microbiology	Testing platform decided in the laboratory depending on time and day received, urgency etc
SARS - CoV-2 IgG / Covid serology	Blood	Serum	1.2ml	48 hrs	Rotunda	Microbiology	
Schistosomal serology	Blood	Serum	1.2ml	2 wks	Hospital for Tropical Diseases	Microbiology	
Selenium	Blood	Metal free / Lithium Heparin Trace metal analysis tube	1.2ml	4 wks	Belfast Royal Victoria	Biochemistry	
Serotonin	Blood	EDTA	2 mL	3 wks	Institute of Neurology, London	Immunology	
Sex Hormone Binding Globulin (SHBG)	Blood	Serum	1.2ml	2 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Sickle Cell Testing**	Blood	EDTA	2.7mL	Sickledex Screen is done same day, Sickle Screen	CHI at Temple Street	Haematology	Sufficient volume in FBC sample. Test performed only on urgent requests and sample will then be sent to

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				HPLC in OLCHC is 2 weeks			CHI at Crumlin for haemoglobin electrophoresis. Test not available for patients < 6 months. These samples as well as all non-urgent sickle cell screens are sent to CHI at Crumlin for haemoglobin electrophoresis. ** Test not accredited; this does not invalidate the results
Silver	Blood	Lithium Heparin	2.7ml	2 wks	Eurofins Biomnis	Biochemistry	
Single Factor Assay	Blood	Sodium citrate	1.4 mL x 2	2 wks	CHI at Crumlin	Haematology	
Sinus Aspirate C/S	Sinus aspirate	Sterile container	Full sample	16-72 hrs	CHI at Temple Street	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Sirolimus	Blood	EDTA	1.6 mL	2 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Skeletal Muscle Antibodies	Blood	Serum	1.2 mL	2 wks	Northern General Hospital, Sheffield	Immunology	
Skin C/S	Skin swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the laboratory
Skin Scrapings Fungal culture, Direct Microscopy	Skin scrapings	Sterile container	Representative sample	Pos: 14-28 days Neg: 14 days	CHI at Temple Street	Microbiology	Store at room temperature if delay in transportation to the laboratory

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Skin Scrapings Gram Stain	Skin scrapings for microscopy query meningococcal infection	Labelled slide	N/A	Gram stain report phoned immediately and available on LIS same day	CHI at Temple Street	Microbiology	Transport to the laboratory immediately
Smooth muscle antibodies	Blood	Serum	1.2 mL	2 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Sodium - blood**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Do not take from limb with IV infusion ** Test not accredited; this does not invalidate the results
Sodium - urine**	Urine (spot)	Universal container	2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Sodium valproate (epilim)**	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Sorbitol dehydrogenase	Blood	EDTA	1.6 mL	Contact referral laboratory	Molecular Genetics & Metabolism Lab, Munich	Metabolic Laboratory	
Sputum C/S	Sputum	Sterile container	Total sample	Gram stain report (on request) on LIS same day Culture report:24-72 hrs CF patients: 10	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the laboratory

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				days (longer if isolates need to be sent for identification)			
Sputum for CF patients for Newcastle	Sputum	Sterile container		Contact referral laboratory	Freeman Hospital, Newcastle	Microbiology	
Staphylococcal Antibodies	Blood	Serum	1.2 mL	21 days	HPA Colindale	Microbiology	
Steroid Profile (Urinary) USP	Urine	Plain tube	20 mL (smaller volumes can be used for infants)	10 weeks	Kings College Hospital, London	Biochemistry	Can be 24 hr urine sample OR spot urine. If patient is on steroid treatment please indicate CLEARLY on request form
Sterols - plasma	Blood	Lithium Heparin / Serum	1.2 mL	4 wks	Sheffield Children's Hospital	Biochemistry	Diagnosis of Smith-Lemli-Opitz syndrome. Cholesterol monitoring of SLO must be carried out using GCMS. Enzymatic method cross-reacts with 7- and 8-DHC
Stool Electrolytes	Faeces	Universal container		2 wks	CHI at Crumlin	Biochemistry	Gastrointestinal fluid and faeces samples should not contain any additives; faeces samples must be liquid to be suitable for analysis. GI fluid and faeces samples should be filtered and centrifuged immediately after collection and the supernatant used for analysis. The fluid should be frozen if not analyzed immediately (to avoid

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							microbial growth)
Streptococcal Antibodies	Blood	Serum	1.2 mL	21 days	HPA Colindale	Microbiology	
<i>Streptococcus agalactiae</i> (group B streptococcus; GBS) capsular typing ** and susceptibility testing**	Purified isolate	Purified isolate on chocolate agar slope or on charcoal transport swab	N/A	Testing batched and carried out on a quarterly basis with reports issued quarterly (susceptibility testing results available on request). Urgent samples processed on request.	CHI at Temple Street	IMSRL	** Test not accredited; this does not invalidate the results Send purified isolate on slopes ASAP after overnight incubation. Suspected cluster/outbreak or unusual clinical or epidemiological queries processed on request following discussion with the medical microbiologist on clinical service in CHI at Temple Street
<i>Streptococcus pneumoniae</i> typing** & susceptibility testing**	Purified isolate	Purified isolate on chocolate agar slope or on charcoal transport swab	N/A	Testing batched and carried out on a quarterly basis with reports issued quarterly (susceptibility testing results available on request). Urgent samples processed on	CHI at Temple Street	IMSRL	** Test not accredited; this does not invalidate the results Send purified isolate on slopes ASAP after overnight incubation. Suspected cluster/outbreak or unusual clinical or epidemiological queries processed on request following discussion with the medical microbiologist on clinical service in CHI at

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				request.			Temple Street
<i>Streptococcus pneumoniae</i> PCR**	Blood CSF Body fluids, others	EDTA Sterile container	Blood ; 0.5-1.0 mL CSF : 0.5 mL Other : Varies	On samples received by 11.00, Result available between 16.00-17.00 same day	CHI at Temple Street	IMSRL	** Test not accredited ** Blood & CSF: Test not accredited Samples should be collected as close to onset as possible and prior to administration of antibiotics. Store samples at 4°C if delay in transportation Indications for testing: 1. CSF: meningitis >= 7 days of age 2. Blood: sepsis >= 7 days of age, should only be requested if there is radiographic evidence of pneumonia
<i>Streptococcus pneumoniae</i> vaccination serology	Blood	Serum	Blood 1 mL	Variable. May take 2-6 months	Medical Microbiology Partnership	Microbiology	If serum is not available a plasma sample may be processed. This must be clearly marked on the form.
<i>Streptococcus pyogenes</i> (Group A streptococcus; GAS) emmsequence typing** & susceptibility testing**	Purified isolate	Purified isolate on chocolate agar slope or on charcoal transport swab	N/A	Testing batched and carried out on a quarterly basis with reports issued quarterly (susceptibility testing results available on	CHI at Temple Street	IMSRL	** Test not accredited; this does not invalidate the results Send purified isolate on slopes ASAP after overnight incubation. Suspected cluster/outbreak or unusual clinical or epidemiological queries

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				request). Urgent samples processed on request.			processed on request following discussion with the medical microbiologist on clinical service in CHI at Temple Street
Streptomycin	Blood	Serum	1.2 mL	2 wks	Southmead Hospital, Bristol	Microbiology	
Sulphite**	Urine (spot)	Universal container	2 mL	2 hr	CHI at Temple Street	Metabolic Laboratory	** Test not accredited Must be in laboratory within 10 mins of sampling
Sweat Test	Sweat	Collected by Medical Scientist	>75 mg sweat	48 hr	CHI at Temple Street	Biochemistry	Contact Laboratory Office for appointment Tel: ext 4266 / 4643
Syphilis screen (Treponema Pallidum / TPPA / VDRL)	Blood	Serum	1.2 mL	7 days	NVRL	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
T and B subsets (EXTENDED)	Blood	EDTA	1.6 mL	4 wks	RVI Newcastle upon Tyne	Immunology	
T and B cell subsets / Lymphocyte subsets	Blood	EDTA	1.2 mL	1 wk	CHI at Crumlin	Haematology	All T & B Subsets to be sent out to OLCHC with the exception of requests from Rainbow Clinic and Dr Ronan Leahy, which should go to SJH for Extended Panel. Note: Request form must state that Extended Panel is required otherwise the sample will be sent to OLCHC. Must arrive in CHI at Crumlin same day before 15:00 and 12:00 on Fridays. Samples must be kept

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							at room temperature.
T and B cells subsets / Lymphocyte subsets CD3 / CD4 / CD8	Blood	EDTA	1.6 mL	2 wks	SJH	Immunology	Samples must be kept at ambient room temperature. All Rainbow Clinic and Dr. Ronan Leahy requests should go to St James.
T cell Proliferation	Blood	EDTA	1.6 mL	4 wks	RVI Newcastle upon Tyne	Immunology	
T3 Free / Free triiodothyronine	Blood	Lithium Heparin / Serum	1.2 mL	3 wks	Mater Misericordiae University Hospital (MMUH)	Endocrinology	
T4 (free)**	Blood	Lithium Heparin / Serum	1.2 mL	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Tacrolimus (Prograf/FK06)**	Blood	EDTA	1.2 mL	72 hr	CHI at Temple Street	Biochemistry	State time of last dose on request form ** Test not accredited; this does not invalidate the results
TB Samples	Urine / BAL/ Sputum	Sterile container		8 weeks	SJH	Microbiology	
Teicoplanin (Targocid)	Blood	Serum	1.2 mL	9 days	Eurofins Biomnis	Biochemistry	State Pre or Post dose on request form
Telomere Length Measurement	Blood	EDTA	5-10ml	Contact referral laboratory	RepeatDX	Haematology	NB Special request form required
Testicular antibodies	Blood	Serum	1.2 mL	Contact referral laboratory	Northern General Hospital, Sheffield	Immunology	
Testosterone	Blood	Serum	1.2 mL	3 wks	Mater	Endocrinology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
					Misericordiae University Hospital (MMUH)		
Tetanus antibodies	Blood	Serum	1.2 mL	6 weeks	Medical Microbiology Partnership	Microbiology	
Tetrasaccharides / GLC4 (to rule out GSD)	Urine	Universal container	5 - 10 ml	5 -7 wks	GOSH	Biochemistry	
Throat C/S	Throat swab	Transport swab	N/A	24-72 hrs	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the laboratory
Thrombophilia Screen/Hypercoagulation Studies	Blood	Sodium citrate	3 mL x 2	1 month	CHI at Crumlin	Haematology	
Thyroglobulin	Blood	Serum	1.2 mL	3 wks	Mater Misericordiae University Hospital (MMUH)	Immunology	
Thyroid Binding Globulin	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available	Assay No Longer Available
Thyroid Receptor Stimulation Antibodies (TRAB) - Thyroid Blocking antibodies	Blood	Serum	1.2 mL	7-10 days	RVI Newcastle upon Tyne	Biochemistry	Batch assay performed in Newcastle twice per week
Thyroxin Peroxidase (TPO) antibodies**	Blood	Serum OR Lithium Heparin	1.2 mL	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Tick borne encephalitis virus	Blood	Serum	1.2 mL		NVRL	Microbiology	
Tissue C/S	Tissue	Sterile	Representative	Gram: same	CHI at Temple	Microbiology	Transport to the laboratory

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		container	sample	day on LIS Culture: 48-98 hrs	Street		immediately Store sample at 4°C if delay in transportation to the laboratory
Tobramycin**	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Refer to "Guidelines and Forms" section via intranet Home page ** Test not accredited; this does not invalidate the results
Toluene	Blood	Lithium Heparin	1.2 mL	3 wks	Eurofins Biomnis	Biochemistry	
TORC screen	Blood	Serum	1.2 mL	7 days	NVRL	Microbiology	
Total IgE	Blood	Serum	1.2 mL	4 wks	CHI at Crumlin	Biochemistry	Only available to consultant requestors. Not available for GPs
Total Protein **	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Toxicology screen - BLOOD	Blood	Serum	2 mL	1 wk Urgent requests contact lab	Beaumont	Toxicology	See comment on Alcohol if required.
Toxicology screen - URINE	Urine (spot)	Universal container	5ml	1 wk Urgent requests contact lab	Eurofins Biomnis	Toxicology	
Toxocara	Blood	Serum	1.2 mL	2 wks	Hospital for Tropical Diseases	Microbiology	
Toxoplasma (congenital)	Blood	Serum		21 days	Swansea National Public Health Service	Microbiology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Toxoplasma PCR - BLOOD	Blood	EDTA	1.6 mL	21 days	Swansea National Public Health Service	Microbiology	
Toxoplasma PCR - CSF	CSF	CSF tube	1ml	Contact referral laboratory	Swansea National Public Health Service	Microbiology	
Toxoplasma titre	Blood	Serum	1.2 mL	7 days	NVRL	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Transferrin	Blood	Serum	1.2 mL	2 wks	Northern General Hospital, Sheffield	Immunology	
Transferrin Isoforms.Glycosylated Transferrin,Transferrin Isoelectric focusing (CDG syndromes)	Blood	Lithium Heparin	1.2 mL	4 wks	Radboud University Medical Centre, Nijmegen	Genetics	Radboud request form must be completed with full relevant clinical information. REQUEST APOC3G WITH ALL TRAISO REQUESTS.
Transferrin Receptor (soluble)	Blood	Serum	1.2 mL	2 wks	SJH	Haematology	
Transferrin Saturation (TSATs)	Blood	Lithium Heparin	1.2 mL	1 week	Beaumont	TDM	
Triglyceride**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Trileptal (Oxycarbazepine)	Blood	Serum	1.2 mL	1 -2 wks	Chalfont Centre for Epilepsy	TDM	
Trimethylaminuria (TMA) (free TMA and TMA-oxide)	Urine (spot)	Universal container	10-20ml	8 wks	Sheffield Children's Hospital	Biochemistry	
Troponin I	Blood	Lithium Heparin	1.2 mL	1 wk	Mater Misericordiae University	Biochemistry	STAT to lab.

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
					Hospital (MMUH)		
Tryptase	Blood	Serum	5 mL	2 wks	Beaumont	Immunology	
TSH**	Blood	Lithium Heparin / Serum	1.2 mL	3 days	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Tyrosinaemia type 1 specimen requirements - 5-Amino Leuvulivate Acid (ALA), 5ALA (URINE)	Urine (spot)	Universal container	5-10ml	3 wks	SJH	Biochemistry	
Tyrosinaemia type 1 specimen requirements, NTBC, nitisinone, succinylacetone, 5-Amino Leuvulivate Acid (ALA) (BLOOD)	Blood	Dried blood spot card		6-8wks	Evelina Children's Hospital, London	Biochemistry	
Urate/creatinine ratio (part of urine metabolic screen)	Urine (spot)	Universal container	5 mL	2-28 days	CHI at Temple Street	Metabolic Laboratory	FOR REFERRING LABS: Purine screen only. Freeze promptly, no preservative (if any delay in freezing, store at 4 C up to 4-6 hr (make note of delay on request form)). Urate is unstable even when frozen . Urate samples older than 5 days old are unsuitable for analysis. Requests for urgent tests must be made before 09.30 Mon-Fri. Discuss with Metabolic Lab (ext 4458). Clinical details required for

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							interpretation and appropriate follow up
Urea**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Ureaplasma PCR	Blood CSF Respiratory sample (depends on suspected infection site)	EDTA	2ml	Contact referral laboratory	University of Warwick	Microbiology	
Urethral swab C/S	Urethral swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the laboratory
Uric acid**	Blood	Lithium Heparin	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Uric acid**	Urine (spot)	Universal container	2 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Urinary catheter C/S (Not processed)	Urinary catheter	See comment	See coment	See coment	CHI at Temple Street	Microbiology	Not processed. Urine required.
Urine (24 hour)** Calcium Chloride Creatinine Phosphate Potassium Protein Sodium Urate	Urine (24 hr)	24 hour container		24 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Urine C/S	Urine (midstream)	Sterile container	Representative sample	Microscopy < 8hrs (routine)	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				hours, by request outside routine) Culture: 24-72 hrs			laboratory. Inform parents to refrigerate sample if collection of sample is carried out at home.
Vacuolated lymphocytes**	Blood	EDTA	1.6 ml	Contact referral laboratory	CHI at Temple Street	Haematology	** Test not accredited; this does not invalidate the results
Vaginal Swab C/S	Vaginal swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the laboratory
Valproate**	Blood	Lithium Heparin / Serum	1 mL	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results
Vancomycin**	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	CHI at Temple Street	Biochemistry	Refer to CHI at Temple Street/CHI at Crumlin Antimicrobial Guidelines document (available on intranet) for information relating to sample collection times ** Test not accredited; this does not invalidate the results
Varicella zoster (Chicken pox)	Blood	Serum	1.2 mL	7 days 10 days (Occ Health)	NVRL	Microbiology	Store samples at 4° C if delay in transportation to the laboratory
Varicella zoster (Chicken pox) PCR	Viral Swab / Skin scrapings	Transport swab Sterile container	N/A	9 days	NVRL	Microbiology	Store samples at 4° C if delay in transportation to the laboratory

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Vasopressin / AVP / ADH / Anti diuretic hormone / Copeptin	Blood	Lithium Heparin	4 mL	4 wks	RVI Newcastle upon Tyne	Biochemistry	
Very Long Chain Fatty Acids VLCFA	Blood	EDTA	2 mL	5 wks	St Mary's Hospital Manchester	Metabolic Laboratory	If repeat test requested, child must be fasting. Preferably take Mon - Wed. And Thur before 2pm to ensure it makes collection to UK.
Viral screen	CSF	Sterile container	500uL (if possible) minimum 15uL	10 days	NVRL	Microbiology	Covers HSV, VZV, Enterovirus PCR. In the case of urgent samples, the requesting clinician must notify CHI at Temple Street dispatch and the NVRL (01-7164415) Store at 4 °C if delay in transportation to the laboratory
Vitamin A / Vit A / RETINOL A	Blood	Serum / Lit Hep	1.2 mL		Birmingham City Hospital	Biochemistry	
Vitamin B1 Thiamine	Blood	EDTA	2.7 mL	3 wks	Institute of Neurology, London	Metabolic Laboratory	
Vitamin B12	Blood	Lithium Heparin / Serum	2.7 mL	2 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Vitamin B2 Riboflavin	Blood	EDTA	2.7 mL	3 wks	Institute of Neurology, London	Metabolic Laboratory	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Vitamin B2 Riboflavin	Blood	EDTA	2.7 mL	5 wks	Academic Medical Centre, Amsterdam	Metabolic Laboratory	
Vitamin B6 Pyridoxine	Blood	EDTA	2.7 mL	6-8 wks	Institute of Neurology, London	Metabolic Laboratory	STAT to lab. Protect from light
Vitamin C	Blood	Lithium Heparin	5 mL	2 wks	Eurofins Biomnis	Biochemistry	STAT to lab. Protect from light
Vitamin D (25-OH Vit D) Cholecalciferol	Blood	Serum	3 mL	3 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	
Vitamin E / Vit E / Tocopherol	Blood	Serum / Lit Hep	1.2 mL		Birmingham City Hospital	Biochemistry	
Vitamin K Phylloquinone	Blood	Serum	2 mL	3 wks	Eurofins Biomnis	Biochemistry	Protect from light
Vitreous humour** Chloride Glucose Potassium Sodium Urea	Vitreous humour	Universal container	1 mL	24 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results State priority measurements on request form if small sample
VLDL	Blood	Lithium Heparin / Serum	1.2 mL	2 wks	SJH	Biochemistry	
VMA and 5-HIAA	Urine (spot)	Universal container	5-10ml	Same day for urgent samples - contact lab. 3 wks for routine.	Beaumont	Biochemistry	Discuss with referral lab if 24 hour collection is required. If 24 hr collection taken, collect into container prepared with sufficient 50% (6M) HCl

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Voltage Gated Potassium antibodies VGKC	Blood	Serum	1.2 mL	3 wks	Oxford University Hospital (Churchill)	Immunology	Serum is the preferred sample. CSF can be sent with serum if requested by clinician
Vomitus C/S (Not processed)	Vomitus	See comment	See coment	See coment	CHI at Temple Street	Microbiology	Unsuitable specimen. Not processed
Von Willebrand Screen (VWS)	Blood	Sodium citrate	3 mL x 2	1 month	CHI at Crumlin	Haematology	
Voriconazole	Blood	Serum	1.2 mL	2 wks	Mater Misericordiae University Hospital (MMUH)	Biochemistry	Assay every Tuesday
VRE Screen	Faeces OR Rectal swab	Sterile container Transport swab	Representative sample N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the laboratory
Vulval swab C/S	Vulval swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the laboratory
WASP (GTP-ase binding domain of WASP gene analysis)	Discuss with Consultant Haematologist	Discuss with Consultant Haematologist	Discuss with Consultant Haematologist	Contact referral laboratory	Centre for Human Genetics, Leuven	Haematology	
West Nile Virus	Blood	Serum	3 mL	Contact referral laboratory	NVRL	Microbiology	By arrangement
White Cell Differential (Manual Differential)**	Blood	EDTA	1.6 mL	Same day	CHI at Temple Street	Haematology	Sufficient volume in FBC sample. Performed if requested or as per laboratory procedure

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							** Test not accredited; this does not invalidate the results
Wound Swab C/S	Wound swab	Transport swab	N/A	48-96 hrs	CHI at Temple Street	Microbiology	Store sample at 4°C if delay in transportation to the laboratory
Xanthochromia	CSF	CSF tube	1ml	Contact referral laboratory	Beaumont	Biochemistry	Protect from light
Xanthine Oxidase	Blood AND Urine (spot)	EDTA Universal container	Urine (spot) 5ml (blood 5ml)	4 wks	Laboratorium Erfelijke Metabole Ziekten, Maastricht	Metabolic Laboratory	Send copy of urate blood and urine result from biochemistry
Xanthine	Blood Urine (spot)	EDTA (recommended but not essential) Universal container	Urine (spot) 5ml (blood 5ml)	4 wks	Laboratorium Erfelijke Metabole Ziekten, Maastricht	Metabolic Laboratory	Send copy of urate blood and urine result from biochemistry/metabolic
Zika Serology	Blood	Serum	1.2 mL	3 days	NVRL	Microbiology	By arrangement. Store samples at 4° C if delay in transportation to the laboratory. Must have clinical details and travel history
Zika virus RNA	Blood Urine	Serum/Lithium Heparin Sterile container	1.2 mL	3 days	NVRL	Microbiology	By arrangement. Store samples at 4° C if delay in transportation to the laboratory
Zinc	Blood	Metal free / Lithium Heparin Trace	3 mL	4 wks	Belfast Royal Victoria	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		metal analysis tube					
Zinc antibodies (ZNT8 antibodies) AS PART OF DIABETES SCREEN ie Gad, pancreatic Islet Cell IA2, ZnT8 antibodies	Blood	Serum	5 mL	3 wks	Royal Devon and Exeter Hospital	Immunology	
Zinc Protoporphrin	Blood	EDTA	4 mL	Contact referral laboratory	SJH	Haematology	
β-hydroxybutarate**	Blood	Flouride	0.5ml	2 hr	CHI at Temple Street	Biochemistry	** Test not accredited; this does not invalidate the results

2. VIROLOGY REQUESTING GUIDE

- Requests for “viral screen”, “routine virology” or “atypical screen” without accompanying clinical information will not be processed. Failure to supply the required clinical information will lead to delays in reporting.
- In the case of immunocompromised patients, please contact the Registrar or Consultant Microbiologist to discuss testing.

Clinical Syndrome	Consider	Specimens	Test Method of Choice
Hepatitis	Hepatitis A Hepatitis B Hepatitis C EBV CMV	Serum Serum Serum Serum Serum	Serology Serology, PCR in special cases Serology, PCR Serology, PCR Serology, PCR
Exanthemous rash	Parvovirus B19 HHV-6 Enterovirus EBV CMV Adenovirus Measles Rubella	Serum Serum TS/Stool Serum Serum/Urine TS/Stool Serum/Saliva Serum	Serology Serology/PCR Culture*/PCR Serology/PCR Serology/PCR Culture*/PCR Serology Serology
Vesicular rash	HSV, VZV	Swab/Vesicle fluid	Culture/PCR
Meningitis/ Encephalitis	HSV 1 and 2 VZV Enterovirus HHV-6	CSF CSF CSF CSF	PCR PCR PCR PCR
Pneumonia	Influenza A/B Parainfluenza Adenovirus RSV CMV (Immuno- compromised) (Mycoplasma)	NPA/NPS/BAL/NTS NPA/BAL NPA/BAL NPA/BAL NPA/Lung tissue/Blood/Urine Serum	PCR PCR PCR PCR PCR Serology
Infectious Mononucleosis	EBV CMV	Serum Serum/Urine	Serology Serology/PCR

TS= Throat swab,
NPA= Nasopharyngeal aspirate,
NPS=Nasopharyngeal Swab;
BAL= Bronchoalveolar lavage,
NTS= Nose and throat swab

* Please contact the NVRL to discuss 01-7164415 (Molecular) or 01-7164413/14 (Serology)