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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. This applies to blood transfusion and newborn screening tests. Please contact the laboratory for details on flexible scope.

Please refer to other laboratory guides as required:

- 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.

****Please note that the laboratory has voluntarily withdrawn tests from accreditation to ISO 15189 in the following departments: biochemistry, IMSRL, microbiology, metabolic, haematology & histology. This does not invalidate test results.****

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	**Synnovis**	Steroid Lab at Blackfriars Hub	
16S PCR & Pathogen Specific PCR	Sterile Fluid / tissue	Sterile Container		4 weeks	**GOSH**	Microbiology	
17- Hydroxyprogesterone	Blood	Serum / Lithium Heparin	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, clearly labelled with time and order of collection.** **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	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.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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.**
Abscess swab C/S	Abscess swab	Transport swab	N/A	48-96 hrs	**CHI at Temple Street**	Microbiology	**Transport to laboratory immediately. Store samples at 4° C if delay in transportation ** Test not accredited; this does not invalidate the results**
Acanthamoeba Culture & PCR	Contact Lense Corneal Scrape Corneal Swab	Sterile Container	N/A	10 Days	**London School of Hygiene & Tropical Medicine**	Parasitology	**MUST COMPLETE PARASITOLOGY REQUEST FORM. Form is available in Microbiology or Dispatch**
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 within 15 mins**
Activated protein C resistance (APCR)	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]
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. Acylcarnintine 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 ** Test not accredited; this does not invalidate the results**
Acylcarnitines / ACP (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 Dried Bloodspot acylcarnitine profile if CPTII/CACT deficiency is clinically suspected.**
Acylcarnitines / ACP (Urine)	Urine	Universal container	3 mL	4-8wks	**Sheffield Children's Hospital**	Biochemistry	
Adalimumab Antibodies	Blood	Serum	1.2ml	2 wks	**Royal Devon and Exeter Hospital**	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Adalimumab Level	Blood	Serum	1.2ml	2 wks	**Royal Devon and Exeter Hospital**	Immunology	
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**
ADAMTS-13 Protease (Activity / Antigen / Antibodies) - SJH	Blood	Sodium citrate	2 x 3ml	24 hr	**SJH**	Haematology	**Confirm with haematology team which lab they want the sample sent to before sending as some may still need to go to the UK. Urgent out of hours requests must be approved by coagulation consultant on-call in SJH**
Adenosine deaminase / ADA - Blood	Blood	EDTA	2.6ml	Contact referral laboratory	**Synnovis**	Precision Medicine Laboratory at Blackfriers Hub	
Adenosine deaminase / ADA - Urine	Urine		5 ml	4 wks	**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]
Adenovirus PCR	Blood CSF	EDTA CSF tube	1.2ml	8 days	**NVRL**	Microbiology	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable. 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	**SJH**	Microbiology	
AFP Alpha-fetoprotein	Blood	Lithium Heparin / Serum	1.2ml	2 wks. Contact lab for urgent requests	**CHI at Crumlin**	Biochemistry	
AFP Alpha-fetoprotein - CSF	CSF	CSF tube	1 mL	Contact referral laboratory	**Charing Cross Hospital, London**	Biochemistry	**Minimum 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**
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**

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**
Alcohol BLOOD	Blood	Fluoride	1.2ml	1 wk	**Beaumont**	Toxicology	**Separate to Toxicology screen**
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)	Blood	Lithium Heparin	1.2 mL	2 hr	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results**
Alkaline Phosphatase (ALP) Isoenzymes	Blood	Lithium Heparin / Serum	1.2ml	6 wks	**Charing Cross Hospital, London**	Biochemistry	**Must also request ALP and GGT on Biochemistry bloods**
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**
Allergy Screening For GP Requests	Blood	Serum	3-5ml		**CHI at Crumlin, Eurofins Biomnis**	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Allopurinol	Urine	Sterile container	5ml	4 wks	**Laboratorium Erfelijke Metabole Ziekten, Maastricht**	Metabolic Laboratory	**Please contact Metabolic Unit for the protocol. Take baseline urine sample before administering allopurinol. Collect urine from 0hrs-8hrs, 8hrs -16hrs and 16hrs - 24 hrs in a three 24 hour containers**
Alpha 1 Antitrypsin level Alpha 1 Antitrypsin Phenotype PI typing.	Blood	Serum	1.2ml	3 wks	**Beaumont**	Biochemistry	
Alpha 1 Antitrypsin level- FAECES	Faeces	Universal container	100 mg (min)	2 wks	**The Doctors Laboratory**	Biochemistry	
Alpha Globin Gene Studies (AGGS)	Blood	EDTA	2.6 mL	4 wks	**Kings College Hospital, London**	Haematology	
Alpha Iduronidase	Blood	EDTA	4 mL	3 wks	**St Mary's Hospital Manchester**	Metabolic Laboratory	**Take Monday to Wednesday only. Take Thursday if clinician accepts risk of delay. Should never be taken on Fridays**
Alpha Interferon - Blood	Blood	Serum	1.2ml	Contact referral laboratory	**Hopital Cochin**	Biochemistry	**Send with Paired CSF**
Alpha Interferon- CSF	CSF	CSF tube	0.5 mL (min)	Contact referral laboratory	**Hopital Cochin**	Biochemistry	**Send with Paired Serum**
Alpha2 Anti Plasmin Assay	Blood	Sodium citrate	Discuss volume required with Consultant	Contact referral laboratory	**Royal Free Hospital, London**	Haematology	**Bring sample immediately to lab directly after venopuncture.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
			Haematologist 2x 3mls				
Amikacin (TROUGH, PEAK, RANDOM)	Blood	Serum	1.2ml	2 wks	**Mater Misericordiae University Hospital (MMUH)**	Microbiology	**Take peak & trough levels**
Amino acids	CSF	Universal container	200 µL	1-10 days	**CHI at Temple Street**	Metabolic Laboratory	**Clinical details must be supplied for interpretation and appropriate follow-up ** Test not accredited; this does not invalidate the results**
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, 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. ** 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]
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 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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Amino acids panel by Ion-Exchange (Alanine, Arginine, Asparagine, Aspartate, Citrulline, Cystine, Glutamine, Glutamic acid, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Ornithine, Phenylalanine, Proline, Serine, Taurine, Threonine, Tyrosine and Valine.	Blood	**Lithium Heparin ONLY**	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. ** Test not accredited; this does not invalidate the results**
Amino acids panel by LC-MS/MS (Alanine, Allo-Isoleucine, α-Aminoadipate, Arginine, Argininosuccinic acid, Asparagine, Aspartate, Citrulline, Sulfocysteine, Cystine, Glutamine, Glutamic acid, Glycine, Histidine, Homocitrulline, Isoleucine, Leucine, Lysine, Methionine, Ornithine, Phenylalanine, Pipecolic acid (Pipecolate), Proline, Serine, Taurine, Threonine, Tryptophane, Tyrosine and Valine.**	Blood	**Lithium Heparin ONLY**	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. ** 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]
Aminophylline / Theophylline	Blood	Lithium Heparin / Serum	1.2ml	1 wk	**Beaumont**	Biochemistry	**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	**SEND TO LAB STAT. Avoid haemolysis and venous stasis. ** 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 ***GEL SEPARATOR TUBES ARE UNSUITABLE***	1.2ml	Contact referral laboratory	**Public Health England South West Laboratory**	Microbiology	**DO NOT TAKE BLOOD INTO SERUM WITH GEL SEPARATOR.**
Amylase	Blood	Lithium Heparin	1.2 mL	2 hr	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results**
Amylase (Urinary)	Urine (spot)	Universal container	10 ml	Contact referral laboratory	**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	
Amyloid A	Blood	Serum	1.2ml	Contact referral laboratory	**Royal Free Hospital, London**	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Anaerobic bacteria identification and susceptibility testing	**ORGANISE THROUGH MICRO ONLY**	**ORGANISE THROUGH MICRO ONLY**	**ORGANISE THROUGH MICRO ONLY**	**ORGANISE THROUGH MICRO ONLY**	**University Hospital of Wales**	Anaerobe Reference Unit	**ORGANISE THROUGH MICRO ONLY**
Androstenedione	Blood	Serum	2.6 mL	2 wks	**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	
Androstenedione - PART OF HCG STIM TEST	Blood	Serum	2.6 mL	Contact referral laboratory	**St James's University Hospital, Leeds**	Biochemistry	
Angiotensin Converting Enzyme (ACE) - BLOOD	Blood	Serum	2.6 mL	1 wk	**SJH**	Immunology	
Angiotensin Converting Enzyme (ACE) - CSF	CSF	CSF tube	1 mL	3 wks	**National Hospital for Neurology & Neurosurgery, London**	Metabolic Laboratory	
Angleman Syndrome	Blood	EDTA	5-10 mL (for adults)	Routine 8 weeks. Urgetn 3 wks	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
Anti A or B antibody titres	Blood	4.5/4.9mL Red label EDTA KE for blood transfusion only	4.5 or 4.9ml	Contact referral laboratory	**IBTS**	Blood Transfusion	**Must be labelled with label from the PDA (no addressograph or stickers from the patients chart accepted) or hand written Form accompanying the sample must be a fully completed Blood Transfusion Request Form.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Anti Dnase B. Titres / Streptodornase B	Blood	Serum	1.2ml		**Eurofins Biomnis**	Microbiology	
Anti Factor Xa / Factor 10a**	Blood	Sodium citrate	1.4 mL	1 day	**CHI at Temple Street**	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 GQlb Antibodies / GM1 antibodies / Ganglioside antibodies	Blood	Serum	1.2 mL	5 wks	**Queen Elizabeth Hospital Glasgow**	Neuroimmunology	
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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Anti Neutrophil 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	
Antibody Investigation	Blood	4.5/4.9mL Red label EDTA KE for blood transfusion only	min 3 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	
APOC3 Glycoforms	Blood	Lithium Heparin	1.2ml	Contact referral laboratory	**Radboud University Medical Centre, Nijmegen**	Genetics	
Apolipoprotein A / Lipoprotein A	Blood	Serum	1.2ml	Contact referral laboratory	**Eurofins Biomnis**	Biochemistry	**Separate & send**
Apolipoprotein B	Blood	Serum	1.2ml	Contact referral laboratory	**Eurofins Biomnis**	Biochemistry	**Separate & send**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
APTT (activated partial thromboplastin 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 4 hours of the sample being taken. 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 Interferences: clots in the sample, heparin. ** Test not accredited; this does not invalidate the results**
Arsenic - Blood	Blood	Metal free / Lithium Heparin Trace metal analysis tube	3 mL	4 wks	**Belfast Royal Victoria**	Biochemistry	**Minimum volume 0.5ml Wholeblood. Take separate bottle to zinc, selenium, copper etc requests.**
Arsenic - Urine	Urine	Universal container	20ml	2 wks	**Belfast Royal Victoria**	Biochemistry	**Avoid sample contact with Rubber, Metal or Glass**
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** 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]
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. **** **Test not accredited; this does not invalidate the results**
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) - Blood	Blood	EDTA	2 mL	Contact referral laboratory	**Public Health England South West Laboratory**	Microbiology	
Aspergillus Identification (PCR) - BAL	BAL	Sterile universal	Min 100µL	Contact referral laboratory	**Public Health England South West Laboratory**	Microbiology	
Aspergillus precipitins (IgG)	Blood	Serum	1.2ml	2 wks	**Northern General Hospital, Sheffield**	Immunology	
Autoimmune Encephalitis Panel	Blood	Serum	5ml	3 wks	**SJH**	Immunology	
Autoimmune Neutropenia	Blood	Serum	6 mL	3 wks	**NHS Blood & Transplant**	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	
B2 Microglobulin (Blood)	Blood	Serum	1.2ml	10 days	**Mater Misericordiae University Hospital (MMUH)**	Immunology	
B2 Microglobulin (Urine)	Urine (spot)	Universal container		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 ** Test not accredited; this does not invalidate the results**
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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	2.6ml	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 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	2.6 mL	4 wks	**Kings College Hospital, London**	Haematology	**Send FBC report with sample for interpretation of the genotype/phenotype relationship.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
B-HCG (CSF)	CSF	CSF tube	1 mL	Contact referral laboratory	**Charing Cross Hospital, London**	Biochemistry	**Minimum 0.5 ml CSF required**
Bile Acids / Bile Salts (PLASMA)	Blood	Lithium Heparin	1.2ml	5 wks	**Sheffield Children's Hospital**	Biochemistry	**Protect blood from 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 ** Test not accredited; this does not invalidate the results**
Bilirubin (Conjugated)	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**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Biotin/Vit B8	Blood	Lithium Heparin ***GEL SEPARATOR TUBES ARE UNSUITABLE ***	2.6 mL	2 wks	**Eurofins Biomnis**	Biochemistry	**Protect blood from light *DO NOT TAKE BLOOD INTO TUBE WITH GEL SEPARATOR.**
Biotinidase	Blood	Lithium Heparin	1 mL	4 wks	**Sheffield Children's Hospital**	Biochemistry	
Biotinidase - Dried Blood Spot	Blood	Dried Blood Spot Card	4 spots	Contact referral laboratory	**St Thomas' Hospital**	Synnovis	
BK Virus	Blood Urine	EDTA or Serum AND Sterile universal	1.2 mL	8 days	**NVRL**	Microbiology	**Store at 4 ^{o}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]
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 compromised	**Negative BC:** 5 days **Positive BC:** 5-10 days	**CHI at Temple Street**	Microbiology	**** Test not accredited; this does not invalidate the results** **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 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**
Bone Biomarkers / Bone Turnover Markers - BLOOD	Blood	Serum	10 mL	4 - 6 wks	**SVUH**	Metabolic Laboratory	**Includes:** **1.Vitamin D** **2.PTH** **3.Osteocalcin (Intact)** **4.N-terminal Procollagen I (P1NP)** **5.Bone Alkaline Phosphatase)**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Bone Biomarkers / Bone Turnover Markers - URINE	2nd Void urine in morning.	Universal container	Collect full amount of urine passed	4 wks	**Norfolk & Norwich University**	Metabolic Laboratory	**Includes: 1.N-Telopeptides (NTX) 2.Creatinine 3.NTX:Creatinine Ratio**
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 (Whooping cough)	Perinasal swab	Perinasal swab (available from the laboratory)	N/A	7 days (min)	**CHI at Temple Street**	Microbiology	**Store samples at 4° C if delay in transportation to the laboratory After culture, sample is sent to CHI at Crumlin for PCR testing ** Test not accredited; this does not invalidate the results**
Borrelia Burgdoferi (Lyme disease)	Blood	Serum	3 mL	8 days	**NVRL**	Microbiology	**If positive VRL will send sample to UK.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 ** Test not accredited; this does not invalidate the results**
Bronchial Brushings C/S	Bronchial brushings	Sterile universal	Total sample	48-96 hrs	**CHI at Temple Street**	Microbiology	**** Test not accredited; this does not invalidate the results**
Bronchoalveolar Lavage C/S	BAL	Sterile universal	Total sample	48-96 hrs	**CHI at Temple Street**	Microbiology	**Gram stain report available electronically same day ** Test not accredited; this does not invalidate the results**
Brucella Antibodies	Blood	Serum	1.2ml	21 days	**Royal Liverpool & Broadgreen University Hospital**	Microbiology	
C5B9 Complex	Blood	EDTA	2.6 mL	Contact referral laboratory	**University Hospital of Wales**	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
C Peptide	Blood	Serum / EDTA	1.2ml	2 wks	**Royal Devon and Exeter Hospital**	Immunology	
C Peptide - Urine	Urine	Sterile universal	10ml	2 wks	**Royal Devon and Exeter Hospital**	Immunology	
C. difficile Testing	Faeces	Sterile container	Representative sample	24-96hrs	**CHI at Temple Street**	Microbiology	**Testing for *C.difficile* should only be requested on stools from children with diarrhoea if** **- the diarrhoea is associated with current or recent antibiotic exposure (particularly broad spectrum antibiotics, such as 2nd or 3rd generation cephalosporins or** **- the diarrhoea is associated with a known risk factor, such as Hirsprung's disease, exacerbation of inflammatory bowel disease or cancer chemotherapy** **and** **- other causes of diarrhoea have been ruled out** **- specimen is liquid stools** **Please do not request *C.difficile* testing on children < 2 yrs in whom the organism is a normal commensal and highly unlikely to cause disease.** **Request forms must therefore**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							include the appropriate clinical details **Formed specimens will not be tested** **Store samples at 4° C if delay in transportation to the laboratory**
C_1 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	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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		Sampler Aspirator					
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	**Note for external hospitals: Urines for Calcium need to have a separate, ACIDIFIED, aliquot to be tested. ** 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	**Note for external hospitals: Urines for Calcium need to have a separate, ACIDIFIED, aliquot to be tested. ** Test not accredited; this does not invalidate the results**
Calprotectin	Stool	Universal container	20g	2 wks	**Eurofins Biomnis**	Biochemistry	**ONLY TESTED ON FORMED SAMPLES**
CAMP / Cyclic Adenosine Monophosphate	Urine	Universal Secondary Container	5 ml	4-6 wks	**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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	**ONLY AVAILABLE TO OCC HEALTH**
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	
Cardiolipin antibodies	Blood	Serum	1.2ml	2 wks	**Mater Misericordiae University Hospital (MMUH)**	Immunology	
Cardiolipin Electrophoresis (R/O BARTH Syndrome)	Blood	Dried blood spot card	4 spots	4-6 wks	**Academic Medical Centre, Amsterdam**	Metabolic Laboratory	**Make sure card is well dry before sending**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Carotene Beta	Blood	Lithium Heparin	2.6ml	2 wks	**Glasgow Royal Infirmary**	Biochemistry	**Protect samples from light.**
CASPR2 antibodies	Blood	Serum	2.6 mL	3 wks	**Northern General Hospital, Sheffield**	Immunology	
Catecholamines URINE (includes noradrenaline, adrenaline, dopamine, HMMA (VMA), HVA) FOR PATIENTS 14 AND UNDER ONLY	Urine (spot)	Universal container		Same day for urgent samples - contact lab. 3 wks for routine.	**Beaumont**	Biochemistry	**STAT TO LAB WITHIN 1 HOUR**
Catecholamines URINE (includes noradrenaline, adrenaline, dopamine, HMMA (VMA), HVA) FOR PATIENTS OVER 14 ONLY	Urine (spot)	Universal container		4 Days	**Eurofins Biomnis**	Biochemistry	**STAT TO LAB WITHIN 1 HOUR**
CCP (Cyclic Citrullinated Peptide)	Blood	Serum	1.2ml	2 wks	**Mater Misericordiae University Hospital (MMUH)**	Immunology	
CD19	Blood	EDTA	2.6 mL	1 wk	**CHI at Crumlin**	Haematology	
CEA	Blood	Serum	1.2ml	1 wk	**SVUH**	Biochemistry	
Central Line C/S	Central line tip	Sterile universal	Total sample	48-96 hrs	**CHI at Temple Street**	Microbiology	**** 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]
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	**Cell count not phoned for neurosurgery patients unless specifically requested.** **Gram stain only performed on call if WCC>5.** **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.** **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.** **Requests for PCR or viral studies must be accompanied by separate request forms.** **** Test not accredited; this does not invalidate the results**
Ceruloplasmin	Blood	Serum	1.2ml	2 wks	**Northern General Hospital, Sheffield**	Immunology	
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.**

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**
CF Sputum for TB and Non TB Mycobacterium	Sputum	Sterile container	Representative sample	up to 8 weeks	**SJH**	Microbiology	**Early morning sample desirable**
CH100 (classical and alternative pathways), Total Complement Profile, AH50, AP100	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 ^{o}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 ^{o}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	Blood	Lithium Heparin	1.2 mL	2 hr	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results**
Chloride - urinary	Urine (spot)	Urine	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]
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	EDTA Preferred. Serum for activity and phenotype only	5 mL	Contact referral laboratory	**Southmead Hospital, Bristol**	Biochemistry	**EDTA Sample is preferred as Serum is not suitable for Genotyping if it is required**
Chromium	Blood	Metal free / Lithium Heparin Trace metal analysis tube	1-2ml		**Belfast Royal Victoria**	Biochemistry	**Minimum volume 0.5ml Wholeblood. Take separate bottle to zinc, selenium, copper etc requests.**
Chromosome Instability / Chromoson Breakage Analysis / Fanconi Screen / /Ataxia Telangiectasia	Blood	Lithium Heparin	2-5 mL	10 days	**Viapth, Guy's Hospital, London**	Haematology	**Rotate gently to avoid clotting. Provide details of any previous radiotherapy or chemotherapy the patient has received.**
Citrate (Urinary) - NON RENAL PATIENTS	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**
Creatine kinase (CK)	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]
Creatine kinase (CK) Isoenzymes (CK-MM, CK-MB & CK-BB)	Blood	Serum	1.2ml	6 wks	**Charing Cross Hospital, London**	Biochemistry	
CLN2 Mutation	Blood	EDTA	5 mL	Contact referral laboratory	**North East Thames Regional Molecular Genetics Laboratory**	Genetics	
Clonazepam / Rivotril	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	**Chalfont Centre for Epilepsy**	TDM	
Clostridium Perfringens (For Laboratory ONLY) **Clostridium Botulinum** **(Enterotoxin)** **Courier requirements will be as per UN2814 CATEGORY A INFECTIOUS SUBSTANCE CLASS 6.2** **See comment field as not generally accepted by couriers.**	Faeces	Cooked meat broth		Contact referral laboratory	**HPA Colindale**	Microbiology	**Send by arrangement only.** **Discuss with Micro chief scientist, Consultant or Reg.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
CMV Screening card.	Screening card retrieved by newborn screening lab.	Screening card retrieved by newborn screening lab.	Screening card retrieved by newborn screening lab.	Contact referral laboratory	**NVRL**	Microbiology	**By arrangement with lab**
CMV Serology	Blood	Serum	1.2ml	8 days	**NVRL**	Microbiology	
CMV Urine	Urine (spot)	Sterile container	5ml	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	**SJH**	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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Coagulation Screen + Hypocoagulation Studies + VW Screen	Blood	Sodium citrate	1.4 mL x 2 3 mL x 2	1 wk	**CHI at Crumlin**	Haematology	
Cobalt	Blood	Metal free / Lithium Heparin Trace metal analysis tube	3 mL	4 wks	**Belfast Royal Victoria**	Biochemistry	**Minimum volume 0.5ml Wholeblood. Take separate bottle to zinc, selenium, copper etc requests.**
Coeliac Screen / Tissue Transglutaminase Antibodies / TTG	Blood	Serum ONLY	2.6 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	4.5/4.9mL Red label EDTA KE for blood transfusion only	4.5 ml	1 wk	**IBTS**	Blood Transfusion	**Must be organised with Blood Transfusion. Please use PDA to label form and sample or hand write patient details. Send fresh same day. Send on IBTS request form**
Compatibility Test incl. Group & Screen / (Group & Hold, Type & Screen)	Blood	4.5/4.9mL red label EDTA KE for blood transfusion only	Age > 4 months: 2mL (min) Age < 4 months: 1-2 mL (min)	Urgent: 1 hr Routine: 3 hrs / as required	**CHI at Temple Street**	Blood Transfusion	**Please use PDA to label form and sample.** **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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							use. **In an emergency situation, crossmatch compatible blood could be available within 40-60 mins provided there are no antibodies or serological complications.** **Routine pre-ops should be received in the laboratory by 14:00 prior to the day of surgery** **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** **Two blood groups (ideally taken 12 hours apart*) are required before the patient is 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.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							***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.**
Complement C2	Blood	Serum	1.2ml	2 wks	**Northern General Hospital, Sheffield**	Immunology	
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 Hospital (MMUH)**	Immunology	
Connexin 46	Blood	EDTA	5ml	4 - 8 wks	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
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	25-50 mL	Cell count & Gram phoned	**CHI at Temple Street**	Microbiology	**Tubes available from Microbiology. Transport to laboratory immediately. Store samples at 4°C**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
		tubes (available from Micro)		ASAP. Final report: min 5 days			**if delay in transportation ** Test not accredited; this does not invalidate the results**
Copeptin	Blood	Lithium Heparin	4 mL	4 wks	**RVI Newcastle upon Tyne**	Biochemistry	
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	**Avoid sample contact with Rubber, Metal or Glass**
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 collection on form. ** Test not accredited; this does not invalidate the results**
Cortisol - Saliva	Saliva	Universal container		Contact referral laboratory	**Wythenshawe Hospital**	Biochemistry	
Cortisone - Saliva	Saliva	Universal container		Contact referral laboratory	**Wythenshawe Hospital**	Biochemistry	
Cortisol on DBS	Blood	Dried Blood Spot Card	4 spots	4-6wks	**Southampton General Hospital**	Biochemistry	**Dried bloodspot card- 4 spots, clearly labelled with time and order of collection. 1. Before morning steroid dose**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							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 -20C for longer periods. Send out at ambient temperature.
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 ** Test not accredited; this does not invalidate the results**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 24 hr in advance. Blood bottle need to be kept at 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	**Prearrange with Dispacth staff. Special tube required..**
Cyclosporin A	Blood	EDTA	2 mL	1 week	**CHI at Crumlin**	Biochemistry	**State time of last dose on request form**
Cystatin C	Blood	Serum	1.2ml	Contact referral laboratory	**Synnovis**	Blackfriers Hub	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Cystic Fibrosis Genetics	Blood	EDTA	3-5 mL	12 wks	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
Cysticercosis	Blood	Serum	3 mL	28 days	**Hospital for Tropical Diseases**	Microbiology	
Cystine (white cell)	Blood	Lithium Heparin	5 mL	6-8 weeks	**Guy's Hospital, London**	Synnovis Genetics Laboratories	**Please arrange with Metabolic lab for sample to be taken during clinic (ext 4724)** **If taken outside of these times the Clinican must accept risk of delay in sample delivery 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**
Cytogenetic (Karyotyping)	Blood	Lithium Heparin	1.2ml	Contact referral laboratory	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 Lactate	Blood	Lithium Heparin / Serum	1-2ml	Contact referral laboratory	**Birmingham Children's Hospital**	Biochemistry	**STAT TO LAB**
D-Dimers	Blood	Sodium citrate	1.4 mL	1 day	**CHI at Temple Street**	Haematology	
Daptomycin	Blood	Serum	1.2 mL	2 wks	**Southmead Hospital, Bristol**	Microbiology	**State dose, frequency and timing of sample**
Dengue Virus	Blood	Serum	1.2ml		**NVRL**	Microbiology	
DHEAS	Blood	Serum	2.6 mL	9 days	**St James's University Hospital, Leeds**	Biochemistry	
Diabetic Antibody Screen(GAD, Ia2 & ZnT8)	Blood	Serum	5 mL	3 wks	**Royal Devon and Exeter Hospital**	Immunology	
Dialysis Fluid Chemistries **Urea** **Creatinine**	Dialysis Fluid	Plain tube	1.2 mL	4 hrs	**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]
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	
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	4.5/4.9mL red label EDTA KE for blood transfusion only	0.5 mL (min)	Same day	**CHI at Temple Street**	Blood Transfusion	**Please use PDA to label form and sample.**
DNA to hold.	Blood	EDTA	5 mL Can receive less from infants	n/a	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Drug inducted 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.**
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 ** Test not accredited; this does not invalidate the results**
EBV PCR (Epstein - Barr Virus)	Blood	EDTA	1.2ml	8 days	**NVRL**	Microbiology	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 requests (01-6206175)** **Store samples at 4° C if delay in transportation to the laboratory**
Elastase	Faeces	Universal container	Min 5 g	4 wks	**Black Country Pathology Services**	Specialist Chemistry	
EMA / Erythrocyte Membrane Antigen Analysis [Hereditary spherocytosis)	Blood	EDTA	1.2 mL	1 wk	**CHI at Crumlin**	Haematology	**Samples over 72 hours old are unsuitable for analysis Samples must arrive before 10:00 on Friday**
ENA screen (includes LA, RNP, Sm antibodies)	Blood	Serum	1.2ml	3 wks	**Mater Misericordiae University Hospital (MMUH)**	Immunology	
Endomysial Antibodies (IgA), EMA	Blood	Serum	2.6 ml	2 wk	**SJH**	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Endomysial Antibodies (IgG), EMA	Blood	Serum	2.6 ml	2 wk	**SJH**	Immunology	
Enterovirus PCR (including Coxsackie)	Blood	EDTA	1.2ml	2 wks	**NVRL**	Microbiology	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
Enterovirus culture	Rectal swab or Throat swab	Viral transport swab	Representative sample N/A	25 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	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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Enterovirus PCR Blood	Blood	EDTA	Blood : 0.5 mL+	TBD	**CHI at Temple Street**	IMSRL	**Samples should be collected as close to onset as possible and transported directly to the laboratory. Store samples at 2-8°C for a maximum of four hours if delay in transportation Indications for testing: ** Test not accredited; this does not invalidate the results.**
Enterovirus PCR CSF	CSF	Sterile container	CSF : 0.5 mL	TBD	**CHI at Temple Street**	IMSRL	**Samples should be collected as close to onset as possible and transported directly to the laboratory. Store samples at 2-8°C for a maximum of four hours if delay in transportation. Indications for testing: ** Test not accredited; this does not invalidate the results**
Epilepsy Gene Panel	Blood	EDTA	5ml	Contact referral laboratory	**CEGAT**	Genetics	
Epimerase	Blood	EDTA	2 - 5 mL	4 weeks	**Academic Medical Centre, Amsterdam**	Metabolic Laboratory	**Contact Dispatch Lab before taking**
EPO Erythropoietin	Blood	Serum	2mL	1 wk	**Eurofins Biomnis**	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
EPO Erythropoietin antibodies	Blood	Serum	2 mL	1 wk	**Eurofins Biomnis**	Haematology	
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 *E.coli* bacteraemia or UTI and is <90 days and has evidence of meningitis, or has galactosaemia. All other requests by special request only. ** Test not accredited; this does not invalidate the results**
ESR / Erythrocyte Sedimentation Rate**	Blood	EDTA (black top)	2.6 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**
Essential fatty acids / Long Chain Fatty Acids (Plasma) and Long Chain Fatty Acids (RBC)	Blood	EDTA	3 mL	4-8 wks	**Academic Medical Centre, Amsterdam**	Metabolic Laboratory	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 container Swab	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 ** Test not accredited; this does not invalidate the results**
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 C/S	Eye swab	Eye swab	N/A	48-96 hrs	**CHI at Temple Street**	Microbiology	**Store samples at 4° C if delay in transportation to the laboratory ** Test not accredited; this does not invalidate the results**
Eye sample, Eye nucleation specimens	Eye biopsy	Sterile Universal	Eye sample	Contact referral laboratory	**SVUH**	Histology	**Please discuss with CHI at Temple Street Histology Laboratory**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Fabry's Enzyme.	Blood	EDTA	5ml	2 wks	**St Mary's Hospital Manchester**	Metabolic Laboratory	**(To rule out Fabry's disease)**
Fabry's Mutation Analysis	Blood	EDTA	1-2 mL (baby) 5 mL (child) 10 mL (adult)	Contact referral laboratory	**North East Thames Regional Molecular Genetics Laboratory**	Genetics	
Factor H, Factor I Genetics	Blood	EDTA	3-5 mL	Contact referral laboratory	**Institute of Human Genetics, Newcastle upon Tyne**	Genetics	
Factor H, Factor I serology	Blood	Serum	1.2ml	Contact referral laboratory	**Institute of Human Genetics, Newcastle upon Tyne**	Genetics	
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 (1.4ml is sufficient)	ADD - 60 days	**SJH**	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Faecal Fat	Faeces	Contact lab for advice	Total sample from 24, 48 or 72 hr collection	2 wks	**Eurofins Biomnis**	Biochemistry	**** ONLY WITH PRIOR ARRANGEMENT WITH DISPATCH LAB. SPECIAL DIET REQUIRED FOR 3 DAYS PRIOR TO COLLECTION. MUST BE DONE ON 24, 48 OR 72 HOUR TOTAL STOOL COLLECTION**
Faecal Occult blood (FOB)**	Faeces	Sterile container	Representative sample	8 hrs	**CHI at Temple Street**	Microbiology	**** Test not accredited; this does not invalidate the results 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 transport to the laboratory ** Test not accredited; this does not invalidate the results**
Ferritin	Blood	Lithium Heparin / Serum	1.2 mL	2 hr	**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	2.6 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. Test must be performed within 4 hours of the sample being taken.**

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**
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 Street**	Microbiology	**Test available on microbiology consultant approval only**
FISH Analysis for Genetics	Blood	Lithium Heparin	1.2ml	Contact referral laboratory	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
Flecainide	Blood	Serum	2 mL	Contact referral laboratory	**St George's Hospital, London**	Biochemistry	
Flow Cytometry	Blood - **Can be marrow**	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	1.2 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]
Folate (Red cell)	Bood	EDTA	1.2ml	1 month	**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	
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	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	**Take Monday to Wednesday only. Take Thursday if clinician accepts risk of delay. Should never be taken on Fridays**
FSH / Follicle Stimulating Hormone	Blood	Lithium Heparin / Serum	1.2ml	2 hr	**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 Misericordiae University Hospital (MMUH)**	Biochemistry	
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	**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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				sample is urgent			
Fumaryl acetoacetase, fumaryl acetoacetate hydrolase [Tyrosinaemia Type 1]	Blood	Serum	1 mL	Contact referral laboratory	**UMC Utrecht**	Metabolic Laboratory	**Enzyme diagnosis for Tyrosinaemia Type I**
Fungal Susceptibility Testing	Fungal Culture Plate	Fungal Culture Plate	Fungal Culture Plate	2 weeks	**St James's University Hospital, Leeds**	Microbiology	
GA1 mutation - Blood	Blood	EDTA	5ml	Contact referral laboratory	**CEGAT**	Genetics	
GA1 mutation - Dried bloodspot	Dried Bloodspot	Dried blood spot card	2 spots	4 - 8 wks	**Sheffield Children's Hospital**	Genetics	
GA-1, defect in fatty acid oxidation, fibroblast culture for storage.	Skin biopsy	Sterile Universal	3-4 mm punch	Contact referral laboratory	**Sheffield Children's Hospital**	Biochemistry	**Provide results of organic acids and acylcarnitines. Indicate if family history**
GABA (free), gamma-aminobutyric acid	CSF	CSF tube	0.5 mL	Contact referral laboratory	**VU Medical Centre Amsterdam**	Biochemistry	
GABA antibodies	Blood	Serum	1.2ml	Contact referral laboratory	**Oxford University Hospital (Churchill)**	Immunology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 metabolic screen)	Urine (spot)	Universal container	5 mL	2-28 days	**CHI at Temple Street**	Metabolic Laboratory	**Fresh urine, frozen without 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. ** Test not accredited; this does not invalidate the results**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							risk of delay. Should never be taken on Fridays
Galactomannan - Blood	Blood	Serum	2.6ml	Contact referral laboratory	**SJH**	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.**
Galactomannan - BAL	BAL	Sterile universal	700µL	Contact referral laboratory	**Public Health England South West Laboratory**	Microbiology	
Galactosaemia Mutation GALT Mutation	Blood	EDTA	2.6 mL	Contact referral laboratory	**CEGAT**	Genetics	
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. 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	2.6 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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
GAMT	Urine	Universal container	3-5 mL	Contact referral laboratory	**VU Medical Centre Amsterdam**	Biochemistry	
Gastrin	Blood	EDTA	2 mL	3 wks	**Charing Cross Hospital, London**	Biochemistry	**STAT to lab within 15 mins** **Fasting sample required**
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	
Genetics for Haemochromatosis	Blood	EDTA	2 mL	7 weeks	**Beaumont**	Biochemistry	**Special request form needs to be filled out by clinician and sent with sample. Form available in dispatch.**
Genetics Panel Metabolic	Blood	EDTA	2.6 mL	Contact referral laboratory	**CEGAT**	Genetics	
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 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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	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 lumber 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**
Glucose-6-phosphate dehydrogenase (G6PD) - MALE PATIENTS	Blood	EDTA	1.2 mL	1 wk	**CHI at Crumlin**	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Glucose-6-phosphate dehydrogenase (G6PD) - FEMALE PATIENTS	Blood	EDTA	1.2 mL	2 wks	**Kings College Hospital, London**	Haematology	
Glycine receptor antibodies	Blood	Serum	1.2ml	4 wks	**Oxford University Hospital (Churchill)**	Immunology	
Glycolate Urine - NON RENAL PATIENTS	Urine (spot)	Universal container	5-10 mL	2 wks	**UCLH, London**	Biochemistry	
GnRH Stimulation Test (LH and FSH performed)	Blood	Serum	1.2ml	3 days	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results**
Gonadotrophins (FSH , LH)	Blood	Serum	1.2ml	2 hr	**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 ^{o}C if delay in transportation to the laboratory**
Gonococcus Urine	Urine	Urine	5ml	11 days	**NVRL**	Microbiology	**Store at 4 ^{o}C if delay in transportation to the laboratory**
Granulocyte Antibodies	Blood	Serum, EDTA	2 mL, 2ml	4 wks	**NBS Centre, Bristol**	H&I lab	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Group & Screen / (Group & Hold, Type & Screen)	Blood	4.5/4.9mL 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 : 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 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 / GDA) / Creatine synthesis and transport defects	Urine (random)	Universal container	3-5 mL	Contact referral laboratory	**VU Medical Centre Amsterdam**	Biochemistry	**Min 1ml required**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Guanidinoacetate (GAA / GDA) / 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) / (Haemophilus Abs)	Blood	Serum	1 .2mL	6 weeks	**Medical Microbiology Partnership**	Microbiology	**Store samples at 4°C if delay in transportation to the laboratory**
***Haemophilus influenzae* & Haemophilus influenzae type b 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 call count noted on request form.** **Blood: Only for PICU patients or patients aged >=65 years.** **All other requests by special request only.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Haemophilus influenzae **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**
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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
HbA1c	Blood	EDTA	1.6ml	2 weeks	**CHI at Crumlin**	Biochemistry	
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 ^{o}C if delay in transportation to the laboratory**
Heparin Induced Thrombocytopaenia Screen (HITS)	Blood	Serum (White)	2 x 5ml	3 working days	**SJH**	Haematology	**Must go with special request 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	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
Hereditary Elliptocytosis / Osmotic Fragility	Blood	EDTA	3-5 mL Plus control patient (sibling of like age or parent). Adult control required	1 wk	**CHI at Crumlin**	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
			requires 10-20 mL				
Herpes PCR HHV6 - BLOOD	Blood	EDTA/Serum	1.6ml	5 days	**NVRL**	Microbiology	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
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	**Take Monday to Wednesday only. Take Thursday if clinician accepts risk of delay. Should never be taken on Fridays**
HHV6	Swab	Viral transport swab			**NVRL**	Microbiology	**Store samples at 4°C if delay in transportation to the laboratory**
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	**STAT TO LAB. Must arrive within 60 minutes**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
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	4.5/4.9mL 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) / THCY	Blood	Lithium Heparin	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 ** Test not accredited; this does not invalidate the results**
Homocysteine (total) / THCY - Dried Blood Spot	Blood	Dried blood spot card	2 full circles	2 wks	**CHI at Temple Street**	NNBSL	****ONLY AVAILABLE FOR NCIMD PATIENTS** Air dry sample for at least 2 hrs prior to transport. Do not use latex gloves. Avoid heat & humidity. ** Test not accredited; this does not invalidate the results**
HSV / Herpes Simplex Virus PCR	Swab	Viral transport swab		6 days	**Rotunda**	Microbiology	**Store samples at 4°C if delay in transportation to the laboratory**
HSV / Herpes Simplex Virus PCR	Blood	EDTA	1.2ml	6 days	**NVRL**	Microbiology	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Human T Cell Lymphotropic Virus (HTLV) 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 Screen	Blood	EDTA x3 Serum x2	3x2mL EDTA 2x5mL Serum	Contact referral laboratory	**RVI Newcastle upon Tyne**	National aHUS Blood Sciences Lab	**Blood tubes must be full**
HUS serology	Blood	Serum	1.2ml	Contact referral laboratory	**Institute of Human Genetics, Newcastle upon Tyne**	Genetics	
Hypercholesterolaemia	Blood	EDTA	5 ml	Contact referral laboratory	**Liverpool Women's NHS Foundation Trust**	Genetics	
Hyperinsulinism Genetics	Blood	EDTA	2.6 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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Hypocretin / Orexin	CSF	CSF tube	1.3 mL	5-7 wks	**Oxford University Hospital (Churchill)**	Immunology	**CSF only. Not tested on blood samples**
Hypoglycaemia mutation analysis	Blood	EDTA	5ml	Contact referral laboratory	**St Mary's Hospital Manchester**	Metabolic Laboratory	
Hypoglycaemic work-up	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**
IgA Antibodies	Blood	4.5/4.9mL red label EDTA KE for blood transfusion only	2x4.5/4.9ml	Contact referral laboratory	**IBTS**	Blood Transfusion	**Please use PDA to label form and sample. Hand written samples are also accepted by IBTS IgA antibodies are referred through Blood Transfusion and sent to IBTS for referral to Sheffield.**
IgD	Blood	Serum	1.2ml	3 wks	**Northern General Hospital, Sheffield**	Immunology	
IGF 1 Insulin like growth factor 1	Blood	Serum/Lithium Heparin	2.6 mL	2 wks	**CHI at Crumlin**	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
IGF 2 Insulin-like Growth Factor 2	Blood	Serum	1.2ml	Contact referral laboratory	**Royal Surrey County Hospital**	Biochemistry	**STAT to lab within 15 mins**
IGF BP3	Blood	Serum/Lithium Heparin	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 Hospital, Sheffield**	Immunology	
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Immunophenotyping	Blood or Bone Marrow	EDTA	2 mL 2 mL	Contact referral laboratory	**CHI at Crumlin**	Haematology	
Immunoreactive Trypsinogen / IRT	Blood	Serum	2 mL	3 wks	**Eurofins Biomnis**	Biochemistry	**STAT TO LAB**
Infliximab/Inflectra Anti-Drug Antibodies	Blood	Serum	2.6 mL	10 Days	**SJH**	Biochemistry	
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	
Inhibitor Screen	Blood	Sodium citrate	1.4 mL x 1 3 mL x 1	Batch tested every 3 wks	**CHI at Crumlin**	Haematology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
INR (international normalised ratio)**	Blood	Serum	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 4 hours of the sample being taken.** **Interferences: clots in the sample, heparin.** **** Test not accredited; this does not invalidate the results**
Insulin	Blood	Serum	1.2 mL	3 days	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results**
Insulin Antibodies(IAA)	Blood	Serum	2.6 mL	3 wks	**Northern General Hospital, Sheffield**	Immunology	
Interleukin 2 Receptor Alpha / IL2 / CD25	Blood	Serum	2.6 mL		**SJH**	Immunology	
Interleukin 6 / IL6	Blood	Lithium heparin or Serum	1.2 mL		**Rotunda**	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 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,	Blood	4.5/4.9mL red label EDTA KE for blood	2x4.5/4.9ml	depends on urgency	**IBTS**	Blood Transfusion	**Please use PDA to label form and sample. Hand written samples are also accepted by IBTS**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Antibody Identification, etc. as required)		transfusion only					
Iodine	Urine	Universal container	5ml	Contact referral laboratory	**University Hospital of Wales**	Trace element lab	
Iron /Transferrin Saturation	Blood	Lithium Heparin	1.2ml	1 wk	**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	
Islet-cell antibodies IA2 abs.	Blood	Serum	5 mL	3 wks	**Royal Devon and Exeter Hospital**	Immunology	
MPN panel (JAK2/CALR/MPL)	Blood	EDTA	2x4.5/4.9ml	15 days	**SJH**	Haematology	
JC Virus PCR	Blood Urine (fresh)	EDTA Universal container	1.2 mL	8 days	**NVRL**	Microbiology	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
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**
Keppra / Levetiracetam	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	**Chalfont Centre for Epilepsy**	TDM	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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: Osteomyelitic/septic arthritis : only if < 5years**
Lactate - BLOOD	Blood	Fluoride	1.2 mL	2 hr	**CHI at Temple Street**	Biochemistry	**STAT TO LAB. 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	**STAT TO LAB. ** 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**
Lactate dehydrogenase (LDH) - CSF	CSF	CSF tube	1 mL	Contact referral laboratory	**Oxford University Hospital (Churchill)**	Immunology	**Minimum volume required 600ul CSF**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 > 4.5 mmol/L ** Test not accredited; this does not invalidate the results**
Lead	Blood	Metal free / Lithium Heparin Trace metal analysis tube	1.2ml	4 wks	**Belfast Royal Victoria**	Biochemistry	**Minimum volume 0.5ml Wholeblood. Take separate bottle to zinc, selenium, copper etc requests.**
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	
Leptin	Blood	Serum	2 mL	3 wks	**Eurofins Biomnis**	Biochemistry	
Leptospirosis - Urine	Urine	Universal Container		Contact referral laboratory	**PHE Porton Down**	Microbiology	**Referral form available in Microbiology**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Leptospirosis Serology (Weil's disease)	Blood	Serum	1.2ml	7 days	**NVRL**	Microbiology	
Leucocyte and Platelet Antibodies	Blood	Serum	5 mL	Contact referral laboratory	**NHS Blood & Transplant**	Immunology	
LGI1 antibodies	Blood	Serum	2.6 mL	3 wks	**Northern General Hospital, Sheffield**	Immunology	
LH / Luteinising Hormone	Blood	Serum	1.2ml	2 hr	**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	
Lipaemia / Lipid Index	Blood	Lithium Heparin	2.6 mL	Contact referral laboratory	**CHI at Crumlin**	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**
***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	On samples received by 11.00, Result available between	**CHI at Temple Street**	IMSRL	**** Test not accredited** **Samples should be collected as close to onset as possible and prior to administration of antibiotics.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
			Fluids/Other : Varies	16.00-17.00 same day			**Store samples at 4°C if delay in transportation** **Indications for testing:** **1. Suspected meningitis in a patient with a positive BC for listeria** **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**	Biochemistry	**Give time post dose**
LKM antibodies / Liver Kidney Microsomal antibodies	Blood	Serum	1.2ml	28 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]
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	
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 Microbiologiest before requesting.**
Lyso-Gb1 (Glucosylsphingosine)	Blood	EDTA	5 mL	Contact referral laboratory	**UZ Antwerpen**	Laboratorium Klinische Biologie	
Lyso-Gb3 (Globotriaosylsphingosine)	Blood	EDTA	5 mL	Contact referral laboratory	**Centogene, Rostock**	Genetics	
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.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							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 Heparin	1.2 mL	2 hr	**CHI at Temple Street**	Biochemistry	**Avoid haemolysis** ** **Test not accredited; this does not invalidate the results**
Magnesium - URINE	Urine (spot)	Universal container	5ml	1 wk	**Mater Misericordiae University Hospital (MMUH)**	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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
MALDI-TOF Organism Identification (For Laboratory ONLY)	Culture Plate	Culture Plate		3 days	**Rotunda**	Microbiology	
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.**
Mannose Binding Lectin MBL	Blood	Serum	2ml	2 wks	**Northern General Hospital, Sheffield**	Biochemistry	
MCADD mutation	Blood DBS	EDTA & Dried blood spot card	0.5 - 5 mL 2 spots	4 - 8 wks	**Sheffield Children's Hospital**	Genetics	
McArdle disease mutations (type 5; GSDV)	Blood	EDTA	2 mL	4 - 8 wks	**Birmingham Children's Hospital**	Biochemistry	
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**
Measles swab PCR & Serology	Oral Fluid (Special swab available in microbiology)	Swab		10 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]
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	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**
Mercury - Blood	Blood	Metal free / Lithium Heparin Trace metal analysis tube		4 wks	**Belfast Royal Victoria**	Biochemistry	**Minimum volume 0.5ml Wholeblood. Take separate bottle to zinc, selenium, copper etc requests.**
Metanephrines (Plasma)	Blood	EDTA	2.6ml	3 wks	**Freeman Hospital, Newcastle**	Biochemistry	**STAT TO LAB. Must arrive within 30 minutes**
Metanephrines (Urine)	Urine (spot)	Universal container	5 -10 ml	3 wks	**Beaumont**	Biochemistry	**STAT TO LAB. Must arrive within 30 minutes**
Methadone (Qualitative analysis)	Urine (spot)	Universal container	5ml	1 wk Urgent requests contact lab	**Eurofins Biomnis**	Toxicology	
Methadone (Quantitative analysis)	Blood	Serum ***GEL SEPARATOR TUBES ARE UNSUITABLE**	2.6mL	3 wks	**Eurofins Biomnis**	Toxicology	**DO NOT TAKE BLOOD INTO SERUM WITH GEL SEPARATOR.**
Methaemoglobin	Blood	safePICO Arterial	1 .5 mL	15 min	**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]
		Blood Sampler Aspirator					
Methanol(Methyl Alcohol)	Blood	Serum ***GEL SEPARATOR TUBES ARE UNSUITABLE**	2.6mL	3 wks	**Eurofins Biomnis**	Toxicology	**DO NOT TAKE BLOOD INTO SERUM WITH GEL SEPARATOR.**
Methotrexate	Blood	Serum	2 mL	1 wk	**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	
Microarray / CGH Array	Blood	EDTA	5 mL	1 month	**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.**
Mitochondrial Antibodies	Blood	Serum	1 mL	2 wks	**Mater Misericordiae University Hospital (MMUH)**	Immunology	
Mitochondrial DNA (for Newcastle)	Blood	EDTA	5 mL	Contact referral laboratory	**Newcastle University**	Genetics	
Mitochondrial DNA (for Oxford)	Blood	EDTA	5 mL	2 - 14 wks	**Oxford University Hospital (Churchill)**	Genetics	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Mitochondrial DNA [MELAS mutations]	Blood	Serum	5 mL	Contact referral laboratory	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
Methylmalonic Acid (MMA level)	Blood	Lithium Heparin	1-2ml	Contact referral laboratory	**Birmingham Children's Hospital**	Biochemistry	
MMA Mutation analysis	Blood	EDTA	5 mL	Contact referral laboratory	**Kinderspital, Zurich**	Genetics	
MMR (Measles / Mumps / Rubella) Antibodies	Blood	Serum	3 mL	9 days	**NVRL**	Microbiology	**Store samples at 4° C if delay in transportation to the laboratory**
MOG Antibodies Paired CSF & Serum	Blood CSF	Serum	1.2ml	3 wks	**Oxford University Hospital (Churchill)**	Immunology	**Minimum vol required 200ul serum, 600ul CSF**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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**
MTHFR Mutations	Blood	EDTA	3-5 mL Smaller volume may be accepted for infants	Contact referral laboratory	**Weiswasser Molecular Diagnostics**	Genetics	
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	
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.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	EDTA	2.6mL	Contact referral laboratory	**Micropathology LTD**	Microbiology	
Mycoplasma pneumoniae PCR - CSF & Respiratory Samples	CSF Respiratory sample (depends on suspected infection site)	Universal Container	Min 200 uL	21 days	**HPA Colindale**	Microbiology	
Myeloid Gene Panel	Blood	EDTA	5ml	120 days	**John Radcliffe Hospital**	Haematology	
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	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	**Sotre 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 Tripepitdyl Peptidase 1	Blood	EDTA Lithium Heparin	4 mL 2.6 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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 reason for calling. Contact VRL on-call clinician.**
***Neisseria gonorrhoea* 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	
***Neisseria gonorrhoea*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° C if delay in transportation to the laboratory**
***Neisseria meningitidis* 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 *Neisseria meningitidis* Screening PCR positive samples only.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Neisseria meningitidis **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 isolates); 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** **†PCR based identification and grouping of *Neisseria meningitidis* group B, C, W and Y is accredited.** **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**
Neisseria meningitidis **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	**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]
***Neisseria meningitidis* 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 Neutropenia	Discuss with Consultant Haematologist	Contact lab for advice	Check with laboratory	Contact referral laboratory	**NHS Blood & Transplant**	Immunology	
Netilmycin / Netromycin / Netillin	Blood	Serum	1.2ml	Contact referral laboratory	**Beaumont**	Microbiology	
Neuro Myelitis Optical (NMO) Antibodies / Aquaporin 4 abs	Blood CSF	Serum CSF	5 mL	3 wks	**Oxford University Hospital (Churchill)**	Immunology	**Minimum volume required 600ul CSF**
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-	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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
MTHF), Pterins and PLP / Homovanillic Acid / 5-HIAA / CSF Pterins / Tetrahydrobiopterin / Dihydrobiopterin / Neopterin - Total / HVA:5HIAA Ratio							**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 baby transfused. Cards MUST be signed by Parent/Guardian** **Samples received in the laboratory before 12.00 Mon-Fri are analysed that day.** **Turnaround time quoted is for normal results. Positive/abnormal results are phoned and urgent action initiated as appropriate.** **For further information, visit www.newbornscreening.ie**
NMDA Receptor antibodies	Blood CSF	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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Non Esterified Free Fatty Acids (NEFA)	Blood	Serum	1.2 mL	7 days	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results**
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	**Contact NVRL if urgent.** **Store samples at 4°C if delay in transportation to the laboratory**
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 Microbiologist or Microbiology SpR**
NT Pro BNP	Blood	EDTA			**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	
NTBC, Nitisinone	Blood	Dried blood spot card		5 wks	**Birmingham Children's Hospital**	NNBSL	
Oestradiol / Oestrogen	Blood	Serum	1.2ml	2 wks	**Coombe**	Biochemistry	
Oligoclonal banding (Albumin CSF Immunoglubulins CSF & BLOOD)	CSF AND Blood	Serum	0.7 mL 1.3 mL	3 wks	**Northern General Hospital, Sheffield**	Immunology	**Serum MUST also be taken on the same day. Please also request IgG index**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Organic acids (qualitative)	Urine (spot)	Universal container	5 mL	2d - 28d Urgent: 1 working day	**CHI at Temple Street**	Metabolic Laboratory	**Clinical details required for interpretation and appropriate follow-up. Requests for urgent tests MUST be made before 09.30 Mon-Fri. Discuss with Metabolic Lab ext 4458. 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). ** 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]
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 preservative. **** **Test not accredited; this does not invalidate the results**
Organic acids**	CSF	Universal container	1 ml	2 wks	**CHI at Temple Street**	Metabolic Laboratory	**** 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]
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 - NON RENAL PATIENTS	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	**CHI at Crumlin**	Flow lab	**Call Crumlin Haematology to arrange and inform Dispatch Lab the day before. Sample must be**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							taken early AM to arrive to crumlin by 10:30
Oxidised LDL	Blood	Serum	1.2ml	2 weeks	**Eurofins Biomnis**	Biochemistry	
Oxysterol	Blood	EDTA	1-2 mL	Contact referral laboratory	**St Mary's Hospital Manchester**	Metabolic Laboratory	
Paired Urine & Plasma for Tubular Reabsorption of Carnitine	Blood & Urine	Lithium Heparin Sterile Universal Container	1.2 mL Blood 10 ml Urine	4 weeks	**Sheffield Children's Hospital**	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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Parechovirus PCR	CSF Stool Viral Swab	Sterile Universal Container Viral transport swab	1.2ml	8 days	**NVRL**	Microbiology	
Parechovirus PCR - Blood	Blood	EDTA	1.6ml	9 days	**NVRL**	Microbiology	***ONLY AVAILABLE IN PATIENTS UNDER 3 Yrs** ***ONLY TAKE DURING ROUTINE HOURS.** **There is no provision out of hours to process this and samples may be rejected as unsuitable.**
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	**Samples must arrive before 09:00 on Friday**
Parvovirus (B19) Serology	Blood	Serum	1.2ml	7 days	**NVRL**	Microbiology	
Parvovirus PCR	Blood	EDTA	1.6ml	9 days	**NVRL**	Microbiology	**ONLY TAKE DURING ROUTINE HOURS.** **There is no provision out of hours to process this and samples may be rejected as unsuitable.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Pemphigoid/Pemphigus Antibodies.	Blood	Serum	2.6 mL	Contact referral laboratory	**Northern General Hospital, Sheffield**	Immunology	
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**
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** **Amylase** **Cholesterol** **LDH** **Total Protein** **Triglyceride**	Peritoneal fluid	Plain container	3 mL	4 hrs	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results** **Collect blood sample at same time for total protein, albumin, LDH & SAAG**
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	Blood	Lithium Heparin	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** **** 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]
Phenylalanine / Tyrosine - DRIED BLOOD SPOT	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. ** Test not accredited; this does not invalidate the results**
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 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	**ONLY AVAILABLE TO OCC HEALTH**
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.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Pipecolic acid	Blood	Lithium Heparin	1.2ml	4 - 8 wks	**Laboratorium Erfelijke Metabole Ziekten, Maastricht**	Biochemistry	
Pituitary 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**
PIVKA	Blood	Serum	2ml	Contact referral laboratory	**Synnovis**	Nutristasis Unit at Blackfriars Hub	**Protect samples from light.**
PKU Phenyketouria Mutation, PAH Mutation	Blood	EDTA	2.6 mL	Contact referral laboratory	**CEGAT**	Genetics	
PLA2R Antibodies	Blood	Serum	2.6 mL	2 wks	**Northern General Hospital, Sheffield**	Immunology	
PLAP - Serum	Blood	Serum	2.6 mL	Contact referral laboratory	**Northern General Hospital, Sheffield**	Immunology	
PLAP - CSF	CSF	CSF tube	1 mL	Contact referral laboratory	**Northern General Hospital, Sheffield**	Immunology	**Minimum 0.5 ml CSF required**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	2.6 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	2.6 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 (St James)	Blood	CTAD(available from Haematology lab)	3 mL x 2	28 days	**SJH**	Haematology	**Protect from light**
Platelet Nucleotides (GOSH)	Blood	Sodium citrate	3 mL x 2	28 days	**CHI at Crumlin**	Haematology	**Protect from light**
Pleural Fluid C/S	Pleural fluid	Sterile container	2-5 mL	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]
Pleural Fluid Chemistries **Cholesterol** **Triglycerides** **Glucose** **Protein** **LDH**	Pleural fluid	Fluoride / Plain	1.2 mL	4 hrs	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results** **Please send concurrent plasma sample if Light's criteria is required**
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	
PNPO	Blood	EDTA	4 mL	Contact referral laboratory	**UMC, Utrecht**	Genetics	
POLG 1 Mutation	Blood	EDTA	4 mL	Contact referral laboratory	**Newcastle University**	Genetics	
Polio (Blood)	Blood	Serum	1.2ml	21 days	**HPA Colindale**	Microbiology	
Polio (Faeces)	Faeces	Sterile Container		Contact referral laboratory	**NVRL**	Microbiology	
Polyols / Alpha aminoadipic semialdehyde (AASA)	Urine	Universal container	5 mL	Contact referral laboratory	**VU Medical Centre Amsterdam**	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Porphyrins - WHOLE BLOOD	Blood	EDTA	2.6 mL	3 wks	**SJH**	Biochemistry	**PROTECT SAMPLE FROM LIGHT**
Porphyrins - PLASMA	Blood	Lithium Heparin	2.6 mL	3 wks	**SJH**	Biochemistry	**PROTECT SAMPLE FROM LIGHT**
Porphyrins - URINE	Urine	Universal container	5 mL	3 wks	**SJH**	Biochemistry	**PROTECT SAMPLE FROM LIGHT**
Porphyrins - STOOL	Stool	Universal container		3 wks	**SJH**	Biochemistry	**PROTECT SAMPLE FROM LIGHT**
Posaconazole	Blood	Serum	1.2ml		**SJH**	Biochemistry	
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**
PPCS	Blood	EDTA	2 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.**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
PR3 [Proteinase 3 antibodies]	Blood	Serum	1.2ml	10 days	**Mater Misericordiae University Hospital (MMUH)**	Immunology	
Prader - Willi syndrome	Blood	EDTA Lithium Heparin	5 mL 1 mL	Routine 8 weeks. Urgent 3 weeks	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
Primidone	Blood	Lithium Heparin / Serum	1.2ml	1 -2 wks	**Chalfont Centre for Epilepsy**	TDM	
Pro LL-37(hCAP-18)	Bloof	EDTA	Minimum 1 mL	2 wks	**Karolinksa**	Clinical Immunology	**Discuss with Consultant Haematologist**
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	
Product issue - albumin (5%/20%)	N/A	N/A	N/A	20 mins	**CHI at Temple Street**	Blood Transfusion	**Immediate issue possible in an emergency**
Product issue - factor concentrates	N/A	N/A	N/A	20 mins (if in stock)	**CHI at Temple Street**	Blood Transfusion	**Discuss with Haematologist**
Product issue - fibrinogen	N/A	N/A	N/A	20 mins	**CHI at Temple Street**	Blood Transfusion	**Immediate issue possible in an emergency**
Product issue - Novoseven	N/A	N/A	N/A	20 mins	**CHI at Temple Street**	Blood Transfusion	**Discuss with Haematologist**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Product issue - plasma	N/A	N/A	N/A	40 mins	**CHI at Temple Street**	Blood Transfusion	
Product issue - platelets	N/A	N/A	N/A	1-2 hrs	**CHI at Temple Street**	Blood Transfusion	**Patient specific order 1-2 hrs turnaournd time depending on availability and urgency** **Emergency platelet held on site for emergency release**
Product issue - Rhophylac anti-D	N/A	N/A	N/A	20 mins	**CHI at Temple Street**	Blood Transfusion	
Progesterone	Blood	Lithium Heparin	1.2ml	2 wks	**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	**Measure in luteal phase only. State day of cycle.**
Proinsulin	Blood	Serum	1.2ml		**Royal Surrey County Hospital**	Biochemistry	**STAT to lab within 15 mins**
Prolactin	Blood	Lithium Heparin	1.2ml	2 wks	**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	**Avoid stress. Prolactin secretion is dopamine dependent. Macroprolactin screening is added if prolactin is >550Miu/l in males, >600Miu/l in females**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 4 hours of the sample being taken.** **Interferences: clots in the sample.**
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	
Protein/Creatinine Ratio / PCR / PRCR (Spot Urine)	Urine (spot)	Universal container	2 mL	Contact referral laboratory	**Rotunda**	Biochemistry	
Protein/Creatinine Ratio / PCR / PRCR (24 Hr Urine)	Urine (24 hr)	Universal container	2 mL	Contact referral laboratory	**Rotunda**	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Prothrombin G20210A Genotype Analysis	Blood	EDTA	5ml	90 days	**SJH**	Haematology	**Consent form and St James Request form must be completed. In childhood not perofrmed unless requested by a haematology consultant.**
Pseudo cholinesterase / Pseudo cholinesterase phenotype / Suxamethonium	Blood	Serum & EDTA	3 mL 3 mL	Contact referral laboratory	**Southmead Hospital, Bristol**	Biochemistry	
Pseudomonal 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 4 hours of the sample being taken.** **** Test not accredited; this does not invalidate the results**
PTH Related Peptide	Blood	EDTA+Aprotinine	2ml		**Eurofins Biomnis**	Biochemistry	**Special tubes available from Dispatch Lab with notice.**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	5 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. Take Monday to Thursday only. Contact dispatch ext 4278**
Red Cell Gene Panel	Blood	EDTA	5 ml	Contact referral laboratory	**Kings College Hospital, London**	Haematology	
Red Cell Phenotyping Organise through Blood Transfusion Laboratory	Blood	4.5/4.9mL 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. Hand written samples are also accepted by IBTS**
Red cell Protoporphrin	Blood	EDTA	2 mL	3 wks	**SJH**	Biochemistry	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 Stone Profile - Oxalate, Citrate, Cystine, Glyceric Acid, Glycolic Acid, Orotic Acid, Uric Acid, 2,8-Dihydroxyadenine and Xanthine	Urine	Universal container	5-10 mL	4 wks	**Laboratorium Erfelijke Metabole Ziekten, Maastricht**	Metabolic Laboratory	**Must be accompanied by a Maastricht request form**
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 received to	**CHI at Temple Street**	Haematology	**Sufficient volume in FBC sample. - RETIC TESTING MUST BE Perfromed <12 hours (retic stability)**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				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	**PHE 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	**PHE Porton Down**	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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
***S.aureus/ Group A streptococcal* PCR**	Fluid Aspirates Pus Tissue Bone	Sterile container	Fluid: 0.5ml Aspirates 0.5ml Pus 0.5ml Representative tissue sample Representative bone sample	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 likely.** **Indications for testing: Osteomyelitis, septic arthritis, deep tissue abscess, pus/fluid collection in normally sterile site.**
Salicylate	Blood	Serum	1.2ml		**Beaumont**	Toxicology	
Salmonella	Purified isolate			Contact referral laboratory	**GUH Galway**	National Salmonella, Shigella & Listeria Reference Laboratory	
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	
Schistosoma - Urine	Urine	Universal container		2 wks	**Hospital for Tropical Diseases**	Microbiology	
Schistosomal serology	Blood	Serum	1.2ml	2 wks	**Hospital for Tropical Diseases**	Microbiology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
SCN1A	Blood	EDTA	5 mL	Contact referral laboratory	**West of Scotland Genetics Laboratory**	Genetics	
Sebelipase Alfa	Blood	EDTA	3mL	Contact referral laboratory	**St Mary's Hospital Manchester**	Metabolic Laboratory	
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	
SGCE Gene	Blood	EDTA	5 mL (less can be accepted from infants)	Contact referral laboratory	**Liverpool Women's NHS Foundation Trust**	Genetics	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Sickle Cell Testing**	Blood	EDTA	2.6mL	Sickle Screen is performed same day, comprehensive haemoblobinopathy testing perofrmed in CHI Crumlin is 2 weeks	**CHI at Temple Street**	Haematology	**Sufficient volume in FBC sample. Test performed only on urgent requests and sample will then be sent to 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	2.6ml	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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 Biopsy from PM for CYTOGENETICS / Karyotype / Chromosomal analysis	Skin biopsy	Special medium from Histology		Contact referral laboratory	**TDL Genetics, London**	Genetics	**Make sure special medium is thawed before use. If leaving overnight, leave at room temperature.**
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**
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**
SLA/Soluble Liver Antigen blot	Blood	Serum	2.6 mL	6 Days	**Synnovis**	Blackfriers Hub	
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	5ml	Contact referral laboratory	**CEGAT**	Genetics	
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 days (longer if isolates need to be sent for identification)	**CHI at Temple Street**	Microbiology	**Store sample at 4°C if delay in transportation to the laboratory**
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	**Synnovis**	Steroid Lab at Blackfriars Hub	**Can be 24 hr urine sample OR spot urine. If patient is on steroid treatment please indicate CLEARLY on request form**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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			**CHI at Temple Street**	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 microbial growth) ** Test not accredited; this does not invalidate the results**
Streptococcal Antibodies	Blood	Serum	1.2 mL	21 days	**HPA Colindale**	Microbiology	
Streptococcus agalactiae* (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	**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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
				results available on request). Urgent samples processed on request.			**medical microbiologist on clinical service in CHI at Temple Street**
Streptococcus pneumoniae* 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 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**
***Streptococcus pneumoniae* 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	**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]
				16.00-17.00 same day			**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**
***Streptococcus pneumoniae* 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.**
Streptococcus pyogenes* (Group A streptococcus; GAS) *emm*sequence 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 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**
Streptomycin	Blood	Serum	1.2 mL	2 wks	**Southmead Hospital, Bristol**	Microbiology	**State dose, frequency and timing of sample**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Succinylacetone	Blood	Dried blood spot card		5 wks	**Birmingham Children's Hospital**	NNBSL	
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**
SURF-1 Mutation [Leigh's syndrome]	Blood	EDTA	5 mL	Contact referral laboratory	**Oxford University Hospital (Churchill)**	Genetics	
Surfactant A, B, C,D / Surfactant Protein Mutations	Blood	EDTA	3-5 mL (smaller volumes may be accepted for infants)	Contact referral laboratory	**CHI at Crumlin**	Genetics	**CHI Crumlin Genetic referral form must accompany the sample. Form needs to be signed and dated by consultant.**
Sweat Test	Sweat	Collected by Medical Scientist	35 uL	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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
T and B cell subsets / Lymphocyte subsets	Blood	EDTA	1.2 mL	1 wk	**CHI at Crumlin**	Haematology	**SAMPLES MUST BE KEPT AT ROOM TEMPERATURE.** **T & B Subsets are sent to CHI Crumlin Monday to Thursday and on Friday if received before 10:00. Samples received after 10:00 on Friday will not be processed. Samples taken after 17.00 Monday to Thursday must be stored at room temperature and delivered to Haematology the next morning Note: Samples for Extended Panel must be clearly written of form or sample will be sent to CHI Crumlin.**
T and B cells subsets / Lymphocyte subsets CD3 / CD4 / CD8	Blood	EDTA	1.6 mL	2 wks	**SJH**	Immunology	**SAMPLES MUST BE KEPT AT ROOM TEMPERATURE. All Rainbow Clinic and Dr. Ronan Leahy requests should go to St James. Samples received after 11:00 on Friday will not be processed.**
T cell Proliferation	Blood	EDTA	1.6 mL	4 wks	**RVI Newcastle upon Tyne**	Immunology	
T3 Free / Free triiodothyronine	Blood	Lithium Heparin	1.2 mL	3 wks	**Mater Misericordiae University Hospital (MMUH)**	Endocrinology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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**
T50	Blood	Serum	2.6 mL		**Calciscon**	Biochemistry	**Calciscon request form to be filled out. Available from Dispatch Lab**
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 (Aachen, Germany)	Blood	EDTA	5-10ml	Contact referral laboratory	**TeloNostix Ltd**	Haematology	**NB Special request form required**
Telomere Length Measurement (Cardiff)	Blood	EDTA	5-10ml	Contact referral laboratory	**TeloNostix Ltd**	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 Misericordiae University Hospital (MMUH)**	Endocrinology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Testosterone - PART OF HCG STIM TEST	Blood	Serum	2.6 mL	Contact referral laboratory	**St James's University Hospital, Leeds**	Biochemistry	
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**	Enzyme Lab	
Thio Purine Methyl Transferase (TPMT) Level	Blood	EDTA	5 mL	Contact referral laboratory	**St Thomas' Hospital**	Purine Research Lab	**FBC MUST ALSO BE REQUESTED. Sample only stable for 5 days. Take Mon to Wed if possible. Send Thursday or Friday if the Clinician accepts risk of transit delay. Unsuitable if received on Thursday before a Bank Holiday.**
Thio Purine Methyl Transferase (TPMT) Mutation	Blood	EDTA	5 mL	4 weeks	**Laboratorium Erfelijke Metabole Ziekten, Maastricht**	Metabolic Laboratory	**Must be accompanied by a Maastricht request form**
Thiopentone Levels	Blood	Serum	5 mL	Contact referral laboratory	**Belfast Royal Victoria**	Toxicology	***MUST BE PRE ARRANGED AND APPROVED BY CONSULTANT CHEMICAL PATHOLOGIST* Sample must be taken early AM to arrive in Belfast by 9AM**
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	**Queen Elizabeth Hospital Birmingham**	Clinical Chemistry	
Thyroglobulin antibodies	Blood	Serum	1.2 mL	3 wks	**Mater Misericordiae University Hospital (MMUH)**	Immunology	
Thyroid Binding Globulin	Blood	Serum	2.6ml	Contact referral laboratory	**Addenbrookes Hospital**	Immunology	
Thyroid Function Test (Free T4 and TSH)	Blood	Lithium Heparin / Serum	1.2 mL	3 days	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results**
Thyroid Function Test (Free T4 and TSH) - Mater	Blood	Lithium Heparin / Serum	1.2 mL	3 wks	**Mater Misericordiae University Hospital (MMUH)**	Immunology	
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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 container	Representative sample	Gram: same day on LIS Culture: 48-98 hrs	**CHI at Temple Street**	Microbiology	**Transport to the laboratory 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	EDTA/Lithium Heparin	5 ml	3 wks	**Eurofins Biomnis**	Biochemistry	
TORC screen	Blood	Serum	1.2 mL	7 days	**NVRL**	Microbiology	**TORCH = Toxoplasma, rubella, CMV**
Total IgE	Blood	Serum	1.2 mL	4 wks	**CHI at Crumlin**	Biochemistry	**Only available to consultants. 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**
Total T3 / Triiodothyronine	Blood	Serum	5ml	3 wks	**SJH**	Biochemistry	
Total T4	Blood	Serum	5ml	3 wks	**SJH**	Biochemistry	
Toxicology screen on PM samples - BLOOD	Blood	Serum	2 mL	N/A	**State Laboratory**	Toxicology	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Toxicology screen on PM samples - URINE	Urine (spot)	Universal container	5-10 mL	N/A	**State Laboratory**	Toxicology	
Toxicology/Drug screen - BLOOD (Includes Amphetamines, Cannabinoids, Cocaine & Opiates)**	Blood	Flouride ***GEL SEPARATOR TUBES ARE UNSUITABLE***	2 X 2 mL	1 wk Urgent requests contact lab	**Eurofins Biomnis**	Toxicology	**This is a screening test only. For analysis of specific drugs or where the results may be used in a court of law contact the consultant on call for biochemistry in advance of collecting samples.**
Toxicology/Drug screen - URINE**	Urine (spot)	Universal container	5ml	1 wk Urgent requests contact lab	**Eurofins Biomnis**	Toxicology	**This is a screening test only. For analysis of specific drugs or where the results may be used in a court of law contact the consultant on call for biochemistry in advance of collecting samples.**
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	
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Transferrin	Blood	Lithium Heparin / Serum	1.2 mL	3 wks	**Mater Misericordiae University Hospital (MMUH)**	Endocrinology	
Transferrin Isoforms. Glycosylated Transferrin, Transferrin Isoelectric focusing (CDG syndromes)	Blood	Lithium Heparin	1.2 mL	4 wks	**Radboud University Medical Centre, Nijmegen**	Genetics	
Transferrin Receptor (soluble)	Blood	Serum	1.2 mL	2 wks	**SJH**	Haematology	
Transfusion Reaction Investigation	Blood	EDTA & Serum	EDTA: 2mL (min) Serum 2.4mL	Interim: 2 hrs Full: 5 days	**CHI at Temple Street**	Blood Transfusion	
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	

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Troponin I	Blood	Lithium Heparin	1.2 mL	I wk	**Mater Misericordiae University Hospital (MMUH)**	Biochemistry	**STAT to lab.**
Trypanosoma cruzi/T.Cruzi/Chagas PCR	Blood	EDTA	2.6mL	Contact referral laboratory	**London School of Hygiene & Tropical Medicine**	Parasitology	**MUST COMPLETE PARASITOLOGY REQUEST FORM. Form is available in Microbiology or Dispatch**
Tryptase (Mast Cell 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	
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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
							4458). Clinical details required for interpretation and appropriate follow up ** Test not accredited; this does not invalidate the results
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 - CSF & Respiratory Samples	CSF Respiratory sample (depends on suspected infection site)	Universal Container	Min 200 uL	21 days	**HPA Colindale**	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 (fresh)	Universal container	2 mL	2 hr	**CHI at Temple Street**	Biochemistry	**Fresh urine required. ** 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	Urine (24 hr)	24 hour container		24 hr	**CHI at Temple Street**	Biochemistry	**Note for external hospitals: Urines for Calcium need to have a separate, ACIDIFIED, aliquot to be tested. ** 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]
Sodium Urate							
Urine C/S	Urine (midstream)	Sterile container	Representative sample	Microscopy < 8hrs (routine hours, by request outside routine) Culture: 24-72 hrs	**CHI at Temple Street**	Microbiology	**Store sample at 4°C if delay in transportation to the 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) 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]
Varicella zoster IgG (Chicken pox)**	Blood	Serum	1.2 mL		**CHI at Temple Street**	Microbiology	**** Test not accredited; this does not invalidate the results**
VASOACTIVE INTESTINAL POLYPEPTIDE (VIP)	Blood	EDTA	4mL	4 wks	**Belfast Royal Victoria**	Biochemistry	**Fasting sample required**
Vasopressin / AVP / ADH / Anti diuretic hormone	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 Please request Copeptin levels**
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	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 ^{o}C if delay in transportation to the laboratory**
Viral screen - Stool	Stool	Sterile container	Representative sample	10 days	**NVRL**	Microbiology	
Vitamin A / Vit A / RETINOL A	Blood	Serum / Lit Hep	1.2 mL		**Black Country Pathology Services**	Specialist Chemistry	
Vitamin B1 Thiamine	Blood	EDTA	2.6 mL	3 wks	**Institute of Neurology, London**	Metabolic Laboratory	**STAT to lab. Protect from light**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Vitamin B12	Blood	Serum	1.2 mL	3 days	**CHI at Temple Street**	Biochemistry	**** Test not accredited; this does not invalidate the results**
Vitamin B2 Riboflavin	Blood	EDTA	2.6 mL	3 wks	**Institute of Neurology, London**	Metabolic Laboratory	**STAT to lab. Protect from light**
Vitamin B2 Riboflavin	Blood	EDTA	2.6 mL	5 wks	**Academic Medical Centre, Amsterdam**	Metabolic Laboratory	**STAT to lab. Protect from light**
Vitamin B3 Niacin	Blood	EDTA	2 mL	3 wks	**Eurofins Biomnis**	Biochemistry	**STAT to lab. Protect from light**
Vitamin B6/Pyridoxine/Pyridoxal-5-phosphate	Blood	EDTA	2.6 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	**Glasgow Royal Infirmary**	Biochemistry	**STAT to lab WITHIN 15 MINS.**
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		**Black Country Pathology Services**	Specialist Chemistry	
Vitamin K Phyllopquinone	Blood	Serum	2 mL	3 wks	**Eurofins Biomnis**	Biochemistry	**STAT TO LAB Protect sample from light**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Vitreous humour Glucose Sodium Urea	Vitreous humour	Universal container	1 mL	24 hr	**CHI at Temple Street**	Biochemistry	**State priority measurements on request form if small sample ** Test not accredited; this does not invalidate the results**
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	**STAT TO LAB. Children >14y should have a 24 hour collection. Spot collection for children </=14y. As per Endocrine society guidelines. Discuss with Dispatch lab if 24 hour collection is required. If 24 hr collection taken, collect into container prepared with sufficient 50% (6M) HCl. Container to be ordered from Beaumont.**
Voltage Gated Potassium antibodies VGKC - Blood	Blood	Serum	2.6 mL	3 wks	**Northern General Hospital, Sheffield**	Immunology	
Voltage Gated Potassium antibodies VGKC - CSF	Blood	Serum	0.5 mL	3 wks	**Northern General Hospital, Sheffield**	Immunology	
Vomitus C/S (Not processed)	Vomitus	See comment	See coment	See coment	**CHI at Temple Street**	Microbiology	**Unsuitable specimen. Not processed**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
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	**SJH**	Biochemistry	
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	**Radboud University Medical Centre, Nijmegen**	Genetics	
West Nile Virus	Blood	Serum	3 mL	Contact referral laboratory	**NVRL**	Microbiology	**By arrangement. Full clinical details and patients' travel history are essential.**
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 ** 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**

Investigation	Sample type	Container	Sample volume	Turnaround time	Hospital	Laboratory	Special precautions / Clinical Comment [FOR CLINICAL USERS ONLY]
Xanthachromia	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	**ONLY TAKE DURING ROUTINE HOURS. There is no provision out of hours to process this and samples may be rejected as unsuitable.**
Zinc	Blood	Metal free / Lithium Heparin Trace metal analysis tube	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]
Zinc antibodies (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	**Protect from light. Send code red. Must be fresh. Phone when sending**
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	Serum	Serology
	Hepatitis B	Serum	Serology, PCR in special cases
	Hepatitis C	Serum	Serology, PCR
	EBV	Serum	Serology, PCR
	CMV	Serum	Serology, PCR
Exanthemous rash	Parvovirus B19	Serum	Serology
	HHV-6	Serum	Serology/PCR
	Enterovirus	TS/Stool	Culture*/PCR
	EBV	Serum	Serology/PCR
	CMV	Serum/Urine	Serology/PCR
	Adenovirus	TS/Stool	Culture*/PCR
	Measles	Serum/Saliva	Serology
	Rubella	Serum	Serology
Vesicular rash	HSV, VZV	Swab/Vesicle fluid	Culture/PCR
Meningitis/ Encephalitis	HSV 1 and 2	CSF	PCR
	VZV	CSF	PCR
	Enterovirus	CSF	PCR
	HHV-6	CSF	PCR
Pneumonia	Influenza A/B	NPA/NPS/BAL/NTS	PCR
	Parainfluenza	NPA/BAL	PCR
	Adenovirus	NPA/BAL	PCR
	RSV	NPA/BAL	PCR
	CMV (Immuno-compromised)	NPA/Lung tissue/Blood/Urine	PCR
	(Mycoplasma)	Serum	Serology
Infectious Mononucleosis	EBV	Serum	Serology
	CMV	Serum/Urine	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).