



Microbiology: Information for Users

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Section 1: General Information

Laboratory Location

The laboratory is situated on Level 0, Royal Blackburn Teaching Hospital, Haslingden Rd, Blackburn, BB2 3HH. Laboratory Reception is open 9:00 to 17:00 Monday to Friday and Saturday 9:00 to 12:00. Outside these hours the outer doors will be open to Trust staff only for the collection of blood for transfusion from blood bank. Only authorised persons will be allowed access to the laboratory areas.

Clinical Services

The department provides a general microbiology service including bacteriology, mycology, parasitology and viral serology, with a referral service for special virology specimens. Blood cultures and CSF specimens are treated urgently both during normal hours and the on-call period. Any urgent results and those considered to be particularly important are telephoned as soon as possible.

Please see the relevant section in this handbook for specimen collection details, examination procedures and reporting schedules. In the event delay in results beyond the proposed turnaround times that may impact patient care will be triaged and users informed accordingly.

Opening Hours

Laboratory:

08.00 – 21.00 Monday to Sunday, including Bank Holidays.
(Outside these hours an on call system operates via switchboard)

MICROBIOLOGY CONSULTANTS – Clinical advice

09.00 - 17.00 Monday to Friday.
(Outside these hours an on call system operates via switchboard)

Key Personnel & Contact Information

Replace leading 8 with 73 for external telephone number. (Regional Code = 01254)

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| Results and General Enquiries | 84160 |
| Clinical Enquiries to Consultant Microbiologist, 9-5 Monday to Friday | 82593 |

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|-----------------------------------|-------|
| Microbiology laboratory reception | 84160 |
| GP supplies | 82974 |

| | |
|---|-------|
| Secretaries to Consultant Microbiologists | 84541 |
|---|-------|

For Specific Consultants

| | |
|-------------------|-------|
| Dr Sandra Long | 84379 |
| Dr Giuditta Sanna | 84350 |
| Dr Monika Pasztor | 84541 |
| Dr Luca Kormos | 83911 |
| Dr Hisham Ziglam | 85904 |

Lead Biomedical Scientist - Microbiology

| | |
|----------------|----------------------------------|
| Miss D Ellison | 84173 dionne.ellison@elht.nhs.uk |
|----------------|----------------------------------|

Directorate Staff

| | | |
|---------------------------------|----------------------|--|
| Clinical Director | Dr Y Nakhuda | yacoob.nakhuda@elht.nhs.uk |
| Pathology Directorate Manager | Mr D Squires | 84162 dayle.squires@elht.nhs.uk |
| Pathology IT Manager | Mr S Bolton | 82473 samuel.bolton@elht.nhs.uk |
| Pathology Quality Manager | Mrs T Cuthbertson | 83103 tina.cuthbertson@elht.nhs.uk |
| Pathology Education Facilitator | Mrs C Shepard-Cutler | claire.shepherd-cutler@elht.nhs.uk |

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Complaints

Any complaints about the service should be directed to the Lead Biomedical scientist in the first instance on 01254 734173 or via e-mail.

Making a Request

Microbiology request forms with an integral plastic bag are provided in two formats:-

1. Requests made by completing the form attached to the plastic bag.
2. ICE pathology request - requested on ICE computer system, print out the form which is then attached to sample bag.

"Danger of Infection" stickers MUST be added to the sample and form from patients suspected of carrying a blood borne virus (Hepatitis B,C or HIV) or suspected to have any of the following infections, Viral Haemorrhagic Fever, Brucella, TB, Typhoid or Paratyphoid fevers, SARS, MerCoV.

Please also highlight any recent (within the last year) foreign travel on the form.

On no account should specimens be taken from patients suspected of having any pathogen in Hazard Group 4, e.g. viral haemorrhagic fever (Lassa, Marburg, Ebola and Congo-Crimean), or Hendra or Nipah viruses without prior consultation with the on-call medical microbiologist/virologist, infection control and PHE.

The specimen transport bag contains an absorbent gel pack that should remain in the specimen bag - do not remove. This is to ensure that the transport of samples complies with UN3373 road transport of specimens regulations.

Some specialist Virology specimens and PCR requests are referred to virology services in other hospitals. These can be requested using a routine microbiology form.

Request forms should be ordered by each ward directly from stores.

- Please provide relevant clinical details with all specimens.
The minimum data required on all investigations is:
Name
DOB
Hospital number/NHS number and/or address
- For further information see specimen acceptance policy
- **Antibiotic therapy information and details of foreign travel are particularly important** in guiding investigations.
- Routine specimens which are normally expected to be examined on the day of receipt must arrive in the laboratory before 20.00 hours so as to allow enough time for the procedures to be completed before the laboratory closes for routine work at 21.00 Hours.

Each request accepted by the laboratory for examination(s) shall be considered an agreement to perform the tests requests. Any sample that does not comply with the specimen acceptance policy and/or require further clarification for testing will be communicated to users.

Information on how to collect the different samples required can be found on the following link :

<https://www.rmmonline.co.uk/contents/procedures>

Data Protection

All data and patient information will be handled in line with Trust Policies C079 'Information Governance Policy 2021'; C077 'Confidentiality of Personal Information' & C045 'Information Security Policy'

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Section 2 – Test list

Please note that if the specific sample requirements are not met for the test that you require, then either the test may not be performed or the results may not be accurate. The laboratory reserves the right to reject any samples that they deem unfit for testing in line with the sample requirements. False negative results may occur if insufficient sample volumes are taken, and antibiotic use prior to specimen collection for microbiology investigation may also affect patient results

| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
|---|--------|---|--|---|---|-----------------------|
| Blood culture (adult) | Blood | Blood culture bottle (Aerobic) – blue and Blood culture bottle (Anaerobic) – orange Fill blood cultures prior to other samples tubes or use a separate sample | 3-10ml in each bottle Optimal volume 8-10ml | If the patient is difficult to bleed or only a small amount of blood can be taken, please use the aerobic bottle only. **DO NOT REFRIGERATE** Bottles to be received in the laboratory within 4 hours of collection. | Incubated for 5 days. Interim report released if culture negative at 48 hours (36 hours for paediatrics). | Not applicable |
| Blood culture (paediatric) | Blood | Blood culture bottle (PF) - yellow Fill blood cultures prior to other samples tubes or use a separate sample | 2-4ml Optimal volume is no more than 4% of total blood volume | If the patient is difficult to bleed or only a small amount of blood can be taken, 0.1ml is acceptable. **DO NOT REFRIGERATE** Bottles to be received in the laboratory within 4 hours of collection. | | |
| CSF • Culture & sensitivity • Virology (PCR) | CSF | 30ml White top universal container x 3 (samples no.1 & no.3 (of three) for microbiology, no.2 for blood sciences) | 1-2ml in each Optimal volume >1ml | Samples are to be received by the laboratory within 2 hours of collection. Please telephone the laboratory to inform that a CSF in being sent. Virology (PCR), requests are to be stated specifically e.g. HSV. DO NOT put CSF samples in the POD transport system. | WBC & Gram stain results telephoned immediately. 48-72 hours for culture. | Not applicable |

| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
|---|---|---|---------------|--|--------------------------------------|--|
| Swab - Routine culture & sensitivity | Charcoal swabs: <ul style="list-style-type: none"> • skin • wound • abscess/ulcer • ear • eye • throat * • mouth • HVS **/** • Endocervical Swab (ECS) **/** • Urethral ** • nasal | Transwab® charcoal swab (black cap) | N/A | <p>Please take throat swabs before antibiotic therapy is started and avoid contact with the tongue and mouth.</p> <p>Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days.</p> | 48-72 hours for routine swabs & HVS. | <p>7 days</p> <p>*Throat swab: Positive: 7days Negative: 3 days ** Not applicable ***GC only 14 days</p> |
| | • per-nasal | For per-nasal swabs use Transwab® charcoal media (blue cap). | | <p>For per-nasal swabs for whooping cough pass the swab into the post-nasal space through the nose.</p> <p>Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days.</p> | 7-8 days for per-nasal swabs. | <p>7 days</p> <p>*For pertussis - Not applicable</p> |
| | • IV tips | For IV device please place tip in sterile universal container with aluminium lid. | | <p>Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days.</p> | 48-72 hours | Not applicable |
| | • IUCD | For IUCDs please place in sterile universal container with aluminium lid. | | <p>Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days.</p> | 5-6 days for IUCDs. | Not applicable |

| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
|------------------------|---|--|---------------|---|--|---|
| Chlamydia (PCR) | Female – Endocervical or HVS Male – urine Rectal, throat & eye swabs | Cobas® collection kit (yellow cap) | N/A | For urine samples please fill to 'urine fill line'. A combined chlamydia & GC test can also be performed on these samples. Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for up to 12months in Cobas media. | 14 days (samples are referred to Preston). | Not applicable *GC PCR 14days |
| MRSA Screen | Nose and groin - can be submitted as combined sample but only 1 swab must be left in the tube If above not available Single nose and groin charcoal swabs and any other area for ?MRSA | Copan Eswab – liquid media (pink cap) Transwab® charcoal swab (black cap) | N/A | Please do not pour liquid out of Eswab container. Where 2 areas are swabbed: swab 1 st area, place swab (red) in tube and stir to release organisms into liquid then discard swab. Swab 2 nd area, place swab in tube, snap swab (white) where indicated and attach lid to tube. Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days. | 24 hours for negative samples. 48 hours for positive samples. | 7days *Post eradication therapy – 2 days |

| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
|---|---|---|--|---|---|-----------------------------------|
| Faeces <ul style="list-style-type: none"> Routine culture C. difficile Rotavirus/Adeno virus Ova, cysts & parasites H. pylori antigen | Faeces | Blue top universal (with spoon) | Any amount but do not fill Optimal volume 1-2ml | Faeces requesting routine culture are investigated for Giardia and Cryptosporidium in addition to culture for Salmonella, Shigella, E. coli 0157, and Campylobacter. Please transport to laboratory on day of collection. If this is not possible, please refrigerate for no more than 2 days. | 24 hours for C. difficile samples. | See separate C.difficile guidance |
| | | | | | 48-96 hours for routine culture. | OCP 24 hours Culture 7days |
| | | | | | 2-5 days for H. pylori antigen | Not applicable |
| Urine - culture & sensitivity | <ul style="list-style-type: none"> Midstream specimen of Urine (MSU) Catheter Specimen of Urine (CSU) Clean Catch Pad/Bag (paediatric only) Nephrostomy Voided Bladder (VB3) Suprapubic aspirate (SPA) | 30ml red top universal (boric acid) as routine unless otherwise stated below <i>Paediatric samples:</i> 5ml red top universal (boric acid) for paediatric samples* <i>Suprapubic aspirate (SPA):</i> 60ml sterile container without additives | 1 - 20ml Optimal volume >10ml | *For very small paediatric samples please do not use boric acid. Please use a white top universal. Please transport to laboratory within 4 hours of collection. If this is not possible, please refrigerate for no more than 2 days. Guidance on how to collect urine can be found at https://www.rcpath.org/static/00cf7d9e-282d-46da-976ab43c04395e73/uk-smi-u-3i1-national-user-manual-worked-example-for-urine-tests-august-2017-pdf.pdf | 24 hours for negative samples. 48-72 hours for positive samples. | 3 days |
| Expressed Prostatic Secretion (EPS) - culture & sensitivity | Expressed Prostatic Secretion (EPS) | 60ml sterile container without additives | Any Optimal volume >1ml | Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days. | 48-72 hours | 28 days |

| Urine - Legionella/Pneumococcus antigen | Urine | 30ml white top universal | 5-20ml Optimal volume >10ml | Please transport to laboratory within 4 hours of collection. If this is not possible, please refrigerate for no more than 2 days. | Same day | Not applicable |
|--|---|---|---|---|--|--|
| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
| Sputum <ul style="list-style-type: none"> Culture and sensitivity Pneumocystis PCR | Sputum | 60ml sterile container (aluminium lid) | Any amount but do not fill Optimal volume >1ml | Sputa for any investigation should be taken first thing in the morning. Please note: TB is not a routine investigation and must be specifically requested. Please transport to laboratory on day of collection. If this is not possible, please refrigerate overnight. | 48-72 hours for culture & sensitivity. | 3 days *Pneumocystis – Not applicable |
| TB investigations | <ul style="list-style-type: none"> Sputum Urine CSF Bodily fluids (sterile or non-sterile) Faeces Swabs Tissue/Bone BAL | Sputum - 3 samples from consecutive days if possible - 3x 60ml sterile clear container (aluminium lid) | Any amount but do not fill *Optimal CSF volume is >6ml | Samples that test positive for AAFB microscopy from patients that have not previously tested positive will be tested by PCR for MTB and rifampicin resistance. Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days. | 48 hours for microscopy result. 6 weeks for routine culture result. | Not applicable |
| | | Urine - All of first urine passed each day for 3 days in 300ml plastic bottle (x 3 samples) | | | | |
| | | Faeces - Blue top universal container (with spoon) | | | | |
| | | CSF, bodily fluids, tissues/bone – 30ml sterile universal (white top) or 60ml sterile clear container (aluminium lid) | | | | |
| | | Swabs - Transwab® charcoal swab (black cap) | | | | |

| | | | | | | |
|--|---|--|---------|--|--|--|
| | <ul style="list-style-type: none">Blood/bone marrow | Blood and bone marrow samples for TB culture should be sent in a vacutainer containing citrated or lithium-heparin | Min 2ml | Do not send these samples in EDTA as mycobacterial survival will be affected **DO NOT REFRIGERATE** | | |
|--|---|--|---------|--|--|--|

| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
|--|--|---|---|---|---|--|
| Non-sterile body fluids - culture & sensitivity | Pus, drains, seminal fluid etc. | 30ml white top universal or 60ml clear container (aluminium lid) | Any amount but do not fill (optimal amount > 1ml) | Please note: TB is not a routine investigation and must be specifically requested. Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days. | 48-72 hours | Not applicable *Seminal fluid – 28 days |
| Sterile body fluids - culture & sensitivity | Joint, ascitic, pleural | 30ml white top universal or 60ml sterile clear container (aluminium lid) | | | 48-72 hours | Not applicable |
| Tissue - culture & sensitivity | Tissue from any area | 60ml sterile clear container (aluminium lid) | N/A | | 48-72 hours | Not applicable |
| Mycology | Nails, skin scrapings, hair | 30ml white top universal or MycoTrans wax paper | N/A | Please note: a report will be issued as soon as the isolation of a pathogenic fungus is confirmed. However, some fungi are slow-growing therefore isolation can take several weeks. | 24-48 hours for microscopy result. 3 weeks for culture result. | Three months |
| CPO Screen | Faeces or Rectal swab | Blue top universal tube (with spoon) or Transwab® charcoal swab (black cap) | N/A | Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days. | 24-72 hours. | 7 days |
| ESBL Screen | Rectal swab | Transwab® charcoal swab (black cap) | N/A | Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days. | 24-72 hours. | 7 days |
| RSV antigen | Fresh aspiration of NPA or tracheal aspirate | 30ml white top universal | N/A | Please transport to laboratory within 4 hours of collection. If this is not possible, please refrigerate for up to 24 hours. Please note: heavily blood-stained samples cannot be tested. | Same day | Seek clinical advice before sending repeat samples |

| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
|---|---|---|---------------|--|---|--|
| Influenza A&B | Swab Nose & throat | Viral Transport media (VTM) | 2-3 ml | Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 3 days. | Same day | Seek clinical advice before sending repeat samples |
| COVID - Routine/Rapid | Swab Nose & throat | Viral Transport media (VTM) | 2-3 ml | Rapids: Ensure rapid sticker is on the specimen bag and inform specimen reception when arriving to the laboratory. CSM to call on call BMS if out of hours Routine - Please transport to laboratory on the day of collection. If this is not possible, please refrigerate for no more than 7 days. | Rapid : 1-2 hours Routine: 8-24 hours | Seek clinical advice before sending repeat samples |
| Biofire Respiratory Panel | Nasopharyngeal swab | Viral Transport media (VTM) | 2-3 ml | Ensure the sample bag can easily be identified as a Biofire. Out of hours, if deemed urgent, Contact the on call Microbiology Biomedical scientist via switchboard. | 1-4 hours | Seek clinical advice before sending repeat samples |
| Corneal scrape Contact lenses Intraocular fluids (All for culture & sensitivity) | Taken from the eye under consultant supervision | Corneal scrapes must be inoculated onto a Blood Agar plate (CBA), Chocolate Agar plate (CHOC), Sabouraud Agar plate (SAB) and a microscope slide. Contact lenses must be placed into a sterile universal (either 30ml white top or 60ml aluminium lid) with sterile saline. Intraocular fluids must be placed into a sterile universal (either 30ml white top or 60ml aluminium lid) with the needle removed. | N/A | | Same day for microscopy results. 48 -72 hours for routine culture. | Not applicable |

| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
|---|---|--|--|---|--|--|
| <i>Helicobacter pylori</i> culture | Gastric/antral biopsy taken from gastric antrum at endoscopy | 60ml clear container (aluminium lid) with sterile saline | N/A | Please transport to laboratory on day of collection (preferable within 6 hours). If this is not possible, please refrigerate overnight. Avoid sending samples Friday-Sunday. | 21 days (sent to GBRU Colindale for testing) | 7 days |
| Referred virology <ul style="list-style-type: none"> Herpes, varicella, adenovirus, H1N1, measles EBV CMV Toxoplasma Lyme's Disease | Swab from any area for herpes and varicella. Eye swab for adenovirus. Throat swab for H1N1 and measles. | Remel Microtest™ M5® Transport (liquid media, green cap) EXCEPT throat swab for measles* | N/A | *Please note – for throat swabs for measles please send a dry swab. Contact laboratory for more details. Please transport to laboratory on the day of collection. If this is not possible, please refrigerate overnight. | 14 days (samples are referred to Preston or Manchester) | Seek clinical advice before sending repeat samples |
| | Blood | 4.9ml serum gel tube (brown cap) | 2-4.5ml | | 14 days (samples are referred to Preston & other reference laboratories) | Seek clinical advice before sending repeat samples |
| Blood – Serology Varicella zoster Hepatitis A IgM antibodies Hepatitis B core antibody Hepatitis B surface antigen Hepatitis B surface antibodies Hepatitis C antibodies HIV antibodies & p24 antigen Rubella IgG Syphilis (<i>Treponema pallidum</i>) | Blood | 4.9ml serum gel tube (brown cap) | 2-4.5ml (Optimal volume 1ml per test requested) | Please note: urgent Varicella zoster is tested in-house for pregnant women who have been in contact with chicken pox. Routine VZ screening is referred to Preston. Please transport to laboratory on the day of collection. If this is not possible, please refrigerate overnight. | 48 hours Positive samples – further report issued in 5-10 days (positive samples are referred to Preston for confirmation) | Seek clinical advice before sending repeat samples |

| Test | Sample | Container details | Sample volume | Notes | Turnaround time | Recommended Frequency |
|---|--------|---|---|---|---|--|
| PCR Testing <ul style="list-style-type: none"> • Meningococcal • CMV • Hepatitis C • HIV | Blood | 2.7ml EDTA tube (red cap) | 1- 2.5ml (Optimal volume 1ml per test requested) | Please transport to laboratory on the day of collection. If this is not possible, please refrigerate overnight. | 5-10 days (samples are referred to Preston & Manchester) | Seek clinical advice before sending repeat samples |
| Gamma Interferon (QuantiFeron) - In response to TB antigen (3 tube set) | Blood | TB Gold Plus blood tube (grey cap) TB Gold Plus blood tube (purple cap) TB Gold Plus blood tube (yellow cap) TB Gold Plus blood tube (green cap) | 1-1.2ml 1-1.2ml 1-1.2ml | All 4 tubes must be taken for this test to be performed. Test kits are available from Microbiology. Please note: these samples must be sent to the laboratory within 16 hours of collection. **DO NOT REFRIGERATE** These samples are batch-tested on a weekly basis. | 7-10 days | Not applicable |

Note: This list is not exhaustive so please contact the laboratory if the test you require is not on provided here or any other advice/information is required.

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