



# Microbiology Laboratory user Handbook

**Microbiology Laboratory  
North Tyneside General Hospital  
Rake Lane  
North Shields  
Tyne & Wear  
NE29 8NH**

**This SOP supersedes all previous versions**

|                                  |   |
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## INTRODUCTION AND SCOPE

The Microbiology laboratory for Northumbria Healthcare NHS Foundation Trust is located at North Tyneside General Hospital serving a population of over 550,000 within the Northumberland and North Tyneside areas.

The department provides a diagnostic service to Northumbria Specialist Emergency Care Hospital (NSECH), Wansbeck General Hospital (WGH), Hexham General Hospital (HGH) and the community Hospitals.

The Microbiology department is committed to providing a quality service and as such is accredited by the United Kingdom Accreditation Service (UKAS) to ISO 15189 standards. This is the national accreditation body for the UK ensuring laboratories meet the required national standard for Medical laboratories necessary for quality and competence. The department was awarded UKAS accreditation on the 13<sup>th</sup> October 2017. As part of the on-going requirement to maintain compliance with ISO 15189 standards UKAS will undertake annual surveillance visits with a full inspection every 4 years.

Not all tests in the laboratory repertoire fall under the scope of accreditation therefore it is recommended that the UKAS website is checked for an up to date list of all tests covered

[https://www.ukas.com/wp-content/uploads/schedule\\_uploads/00007/9693%20Medical%20Single.pdf](https://www.ukas.com/wp-content/uploads/schedule_uploads/00007/9693%20Medical%20Single.pdf)

The test repertoire includes diagnostic testing for bacteriology, serology, virology, parasitology and mycology. We also provide semen analysis for post vasectomy samples, and pregnancy testing.

We provide this service to local hospitals, General Practitioners, Health Protection Unit, private companies and individuals. We also provide infection control services.

Immunology investigations are referred to the Immunology Department at Queen Elizabeth Hospital, Gateshead. Results are then reported by the Microbiology Laboratory at North Tyneside General Hospital.

Where we are unable to offer in house testing as outlined in our test repertoire samples are prepared and processed by the laboratory prior to referral to the most appropriate referral laboratory. Once we are in receipt of the results the Microbiology Laboratory at North Tyneside General Hospital will issue a report to the requestor.

The efficiency of the service provided is reliant on the cooperation of all service users ensuring the necessary requirements are met as outlined in this user manual. It is important to follow the guidelines in relation to all aspects of health and safety, patient and specimen identification, specimen collection and transport, as well as providing us with essential clinical details.

The intended use of this document is by users of our service, such as clinicians, General practitioners and other healthcare professionals. Advice on specimen collection is given in this manual but must be explained to patients by a healthcare professional.

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Advice on antibiotic treatment and infection control is not covered in this user manual. Appropriate advice can be located on the Trust intranet page or by contacting a Consultant Microbiologist or Infection control team.

Please refer to the following guidelines for further information:

- Guide to the use of antimicrobials:  
<http://intranet/antibiotics/handbook/default.asp>
- Clinical guidelines:  
<http://intranet2.northumbria.nhs.uk/home/clinical-guidelines/files/2015/12/Antibiotic-prescribing-guideline-for-Primary-Care-North-East-and-Cumbria1.pdf>  
<http://intranet2.northumbria.nhs.u.k/home/clinical-guidelines/files/2014/11/Antibiotics-Paediatrics2.pdf>
- North of Tyne Area Prescribing Committee, Primary Care Guidelines for the Management of Infection.

### OVERVIEW OF SERVICES OFFERED

The Microbiology laboratory offers a wide range of diagnostics tests including bacteriology, serology, virology, parasitology, mycology, semen analysis and pregnancy testing. In addition the department carries out screening for infection control purposes including Methicillin Resistant *Staphylococcus aureus* (MRSA) *Clostridium difficile* (C. diff), and Carbapenemase Resistant Enterobacteriaceae (CPE). We also screen for seasonal infections such as Norovirus and Influenzae.

Requests for CPE and Norovirus screening must either be authorised by a Consultant Microbiologist or an Infection control Nurse.

Clinical advice is provided by Consultant Microbiologists and technical advice is given by Biomedical Scientists.

### LOCATING AND CONTACTING THE LABORATORY

The Microbiology laboratory for Northumbria Healthcare NHS Foundation Trust is located at North Tyneside General Hospital.

#### Directions and transport

##### Address:

North Tyneside General Hospital  
Rake Lane  
North Shields  
Tyne & Wear  
NE29 8NH

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North Tyneside General Hospital is situated on the A191 approximately 8 miles east of Newcastle.

By road: From the A19 Northbound, go through the Tyne Tunnel (toll) and leave the A19 after 2 miles, to join the A191 toward North Shields & Tynemouth. Continue over the next 5 roundabouts and at the 6th turn right.

From the A19 Southbound, follow A19 Southbound and join the A191 toward North Shields & Tynemouth. Continue over the next 5 roundabouts and at the 6th turn right.

By bus: For up to date bus information, please use the Traveline service

By rail: The closest railway station is Newcastle Central Station. Check The Trainline for timetables of all services.

For more information, and to view an external and internal map of the hospital please visit the hospital web site: <https://www.northumbria.nhs.uk/our-locations/north-tyneside-general-hospital>

### **Microbiology laboratory opening hours**

The Microbiology department provides a diagnostic service and technical advice 24 hours, 7 days a week.

For all **urgent** specimens where results will affect patient management, following collection of the sample please contact the laboratory by telephone to arrange for the sample to be processed urgently. Results will be telephoned to the requestor once they are available.

The main Pathology Specimen reception at North Tyneside General Hospital is open from 08:30 to 21:30 Monday to Friday and is closed at weekends to the general public; however the microbiology laboratory is still contactable via telephone.

### **Enquiries for results**

Please check ICE or electronic GP links for diagnostic test results, before telephoning the laboratory.

Please note that we need to establish the caller's identity before giving results over the telephone and you may be required to provide a password. Passwords are assigned to GP surgeries and are confidential to their healthcare professionals.

The laboratory is unable to give results directly to patients or their relatives. Patients should contact their GP or the requesting doctor for their results.

These policies are in place for data protection, confidentiality and clinical risk. Results must only be given to healthcare professionals bound by these policies to ensure the protection, safety and care of all patients.

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### Visitors

All visitors must report to Pathology specimen reception where they must sign into the department and receive a visitor's badge. Whilst in the department, visitors must wear the badge so that it is visible to all staff.

### Microbiology contact telephone numbers

|   |  |                              |
|---|--|------------------------------|
| Non- urgent result and general enquiries  | Direct<br>Internal   | 0191 293 2528<br>ext.: 32528 |
| Urgent results  | Direct<br>Internal   | 0191 293 2528<br>ext.: 34617 |
|   | Or bleep the Biomedical Scientist by contacting switchboard extension 31100 or 0344 8118111. |                              |
| Bacteriology laboratory   | Direct<br>Internal   | 0191 293 2528<br>ext.: 32528 |
| Serology & Virology laboratory,<br>Immunology enquiries   | Direct<br>Internal   | 0191 2932528<br>ext.: 34689  |
| Consultants and Microbiology Secretary<br>Val Twizell<br>Email: <a href="mailto:Valerie.twizell@nhct.nhs.uk">Valerie.twizell@nhct.nhs.uk</a>          | Direct<br>Internal   | 0191 293 2538<br>ext.: 32538 |
| Chief Biomedical Scientists (BMS3)<br>Jennifer Challoner<br>Email: <a href="mailto:Jennifer.challoner@nhct.nhs.uk">Jennifer.challoner@nhct.nhs.uk</a> | Direct<br>Internal   | 0191 293 4171<br>ext.: 34171 |
| Jane Haswell<br>Email: <a href="mailto:Jane.haswell@nhct.nhs.uk">Jane.haswell@nhct.nhs.uk</a>   | Direct<br>Internal   | 0191 293 4173<br>Ext: 34173  |
| Senior Chief Biomedical Scientist<br>(BMS4)<br>Karen Morris<br>Email: <a href="mailto:Karen.morris@nhct.nhs.uk">Karen.morris@nhct.nhs.uk</a>          | Direct<br>Internal   | 0191 293 4171<br>ext.: 34171 |
| Pathology Operational Services Manager<br>Ange Brown<br>Email: <a href="mailto:Ange.brown@nhct.nhs.uk">Ange.brown@nhct.nhs.uk</a>                     | Direct<br>Internal   | 0191 293 4005<br>ext.: 34005 |
| Pathology Quality Manager<br>Jonathan Boxshall<br>Email: <a href="mailto:Jonathan.boxshall@nhct.nhs.uk">Jonathan.boxshall@nhct.nhs.uk</a>             | Direct<br>Internal   | 0191 293 4005<br>ext.: 34005 |



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### Clinical advice

Clinical advice is available regarding the appropriateness of tests and diagnostic investigations, management of patients and the use of antimicrobials.

There is a Northumbria Healthcare NHS Foundation Trust Consultant Microbiologist on duty each day Monday to Friday between the hours of 09:00 – 17:00 and 09:00 – 12:30 Saturday, Sunday and bank holidays.

Contact the Trust switchboard internal on extension 31100 or externally on 0344 8118111 and ask for the on duty Microbiologist.

For advice weekday evenings after 17:00 and before 09:00 and weekends including bank holidays after 12:30 and before 09:00, clinical advice is available from the extended clinical microbiology network from Northumbria Healthcare NHS Foundation Trust and Newcastle Hospitals Trust (RVI, FRH).

Contact the hospital switchboard internal 31100, external 0344 8118111 and ask for the first on-call medical Microbiologist.

In the event of a major incident or outbreak situation, please contact the Northumbria Healthcare NHS Foundation Trust Consultant Microbiologist on call, via the Trust switchboard 0344 811 8111.

### Clinical Microbiology service telephone numbers

|  |  |   |
|--|--|---|
| Northumbria Healthcare NHS Foundation Trust Switchboard  | 0344 811 8111                            |   |
| Dr David Tate, Clinical Lead and Director of Infection Prevention & Control<br>Email: <a href="mailto:david.tate@nhct.nhs.uk">david.tate@nhct.nhs.uk</a>                           | Direct<br>Internal<br>Mobile             | 0191 293 4067 (NTGH)<br>ext: 34067 (NTGH)<br>07623 624753 |
| Dr Surya Banerjee<br>Consultant Microbiologist<br>Email: <a href="mailto:Suryabrata.Banerjee@nhct.nhs.uk">Suryabrata.Banerjee@nhct.nhs.uk</a>                                      | Direct<br>Internal<br>Mobile             | 0191 293 4314<br>ext: 34314<br>07828 66626574             |
| Dr Tamsin Oswald (Part-time)<br>Consultant Microbiologist<br>Trust wide Lead for Antibiotic Use<br>Email: <a href="mailto:Tamsin.oswald@nhct.nhs.uk">Tamsin.oswald@nhct.nhs.uk</a> | Direct<br>Internal<br>Internal<br>Mobile | 0191 293 4316<br>ext: 34316<br>07623 976260               |
| Dr Sheetal Sundeep (Part-time)<br>Consultant Microbiologist<br>Email: <a href="mailto:Sheetal.sundeep@nhct.nhs.uk">Sheetal.sundeep@nhct.nhs.uk</a>                                 | Direct:<br>Internal<br>Mobile            | 0191 293 4317<br>ext: 34317<br>07623 623773               |
| Dr Jayanta Sarma<br>Consultant Microbiologist<br>Email: <a href="mailto:Jayanta.sarma@nhct.nhs.uk">Jayanta.sarma@nhct.nhs.uk</a>   | Direct:<br>Internal<br>Mobile            | 0191 293 4315<br>ext: 34315<br>07659 523738               |
| Specialist Registrars<br>Based at North Tyneside General Hospital  | Internal<br>Mobile                       | ext: 34578<br>07623 614133                                |

### Infection Control Advice including outbreaks

For infection control advice out-of-hours contact the Northumbria Healthcare NHS Foundation Trust medical Microbiologist on call, through the Trust switchboard.

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**Infection control team telephone numbers**

In addition to the Consultant Microbiologists:

|  |                    |  |
|--|--------------------|--|
| Diane Sisterson<br>Lead Nurse Trust wide | Mobile<br>Internal | 07824 409223<br>ext.: 32368 or<br>32385(NTGH)  |
| Ruth Henein<br>Senior Nurse NTGH         | Mobile<br>Internal | 07796997195<br>ext.: 32368 or 32385<br>(NTGH)  |
| Janet Wendt<br>Clinical Nurse NTGH       | Mobile<br>Internal | 07770908347<br>ext.: 32368 or 32385<br>(NTGH)  |
| Ania Swann<br>Clinical Nurse NTGH        | Mobile<br>Internal | 07824 408877<br>ext.: 32368 or 32385<br>(NTGH) |
| Cathi Lang<br>Senior Nurse WGH           | Mobile<br>Internal | 07776 460368<br>ext.: 33742 (WGH)              |
| Ann Hindhaugh<br>Clinical Nurse WGH      | Mobile<br>Internal | 07774402841<br>Ext: 33742 (WGH)                |
| Shelley Goodson<br>Clinical Nurse WGH    | Mobile<br>Internal | 07825 365313<br>ext.: 33742 (WGH)              |

|   |                    |   |
|---|--------------------|---|
| Susan Westgarth<br>Clinical Nurse Community | Mobile<br>Internal | 07920245106<br>ext.: 33742 (WGH)<br>ext.: 35077 (HGH) |
| Susan Besbrode<br>Clinical Nurse Community  | Mobile<br>Internal | 07500 552979<br>ext.: 33742 (WGH)                     |
| Alison Knowles<br>Clinical Nurse Community  | Mobile<br>Internal | 07920298056<br>ext.: 33397 (WGH)                      |
| Gillian Steel<br>Clinical Nurse Community   | Internal           | 07833057058<br>Ext: 33742 (WGH)                       |

|  |                    |   |
|--|--------------------|---|
| Mandy Devine<br>Clinical Nurse Community   | Mobile<br>Internal | 07771 388508<br>ext.: (NTGH)                  |
| Heather Lawson<br>Clinical Nurse Community | Mobile<br>Internal | 07799075296<br>ext.: 32368 or 32385<br>(NTGH) |
| Arlene Patten<br>Clinical Nurse Community  | Mobile<br>Internal | 07785 778470<br>ext.: 32309 (NTGH)            |

**Infection Control Support Nurse**

|              |         |             |
|--------------|---------|-------------|
| Carol Bailey | Mobile: | 07824408585 |
|--------------|---------|-------------|

**Infection Control Secretary**

|                    |          |             |
|--------------------|----------|-------------|
| Aimée Joyce (NTGH) | Internal | ext.: 32357 |
|--------------------|----------|-------------|

**Information Support**

|                   |          |             |
|-------------------|----------|-------------|
| Giles Idle (NTGH) | Internal | ext.: 32973 |
|-------------------|----------|-------------|

## CONSENT, COLLECTION AND TRANSPORT OF SPECIMENS

### Request forms

In line with Trust Policy and to comply with the Safer Practice Notice from the National Patient Safety Agency (NPSA/2009/SPN002) the laboratory will only accept request forms with the following essential patient information:

All request forms **MUST** include the following:

**Full patient name or coded identifier**

**Date of birth**

**NHS number (or CHI number if a Scottish resident)**

And should have the following:

**Gender**

**Requesting Doctor/Practitioner or Consultant/GP**

**Location/destination of report**

**Date and time of specimen collection**

**Identity of person collecting the specimen**

**Type of primary sample and/or anatomical site of origin**

**Examinations requested**

**Where there is no NHS number established or it is unknown, another form of identification MUST be provided such as a hospital number or address.**

All of these requirements are met by using ICE order communications to select and request Microbiology tests.

By using ICE requesting it ensures the essential information is on the request form.

ICE also has added benefits:

- Essential patient and request information is sent electronically to Microbiology preventing transcription errors that can occur with manual written request forms.
- Request form and specimen labels printed at the same time.
- Gives users guidance on tests, specimen containers and types of sample to be taken.

In the event that it is not possible to use electronic ICE requesting a manual request form is available on the back of the ICE request forms, this should be submitted along with the sample. It is **IMPORTANT** to ensure that the manual request form includes the essential information as detailed above.

If handwriting a request form, please be clear and legible to prevent errors.

**Request forms failing to meet the above essential acceptance criteria WILL NOT be processed and will be rejected. You will receive notification of this, if you have provided a name and location on the request form.**

**ALL HIGH RISK specimens MUST have 'Danger of Infection' stickers attached to both the specimen and request form.**

### **Special exceptions to the acceptance criteria:**

**GUM clinics** - patient identities are kept confidential. Patients are given a unique identifier which **MUST** be provided on the request form, with the patient's correct date of birth.

**Prisons** – Full name and date of birth **MUST** be provided, however an individual's prison number can be provided instead of an NHS number.

### **Clinical details**

When sending a sample for diagnostic purposes, it is very important that the laboratory is given sufficient, relevant, clinical information to determine the type of examination required. Certain pathogens require special techniques and may not be detected in the routine examination of a sample. Failure to include clinical information may result in an inaccurate result and could compromise patient care.

Relevant details may include:

- Types of symptoms
- Other recent infections
- Date of onset of illness
- Underlying conditions e.g. diabetes, immunocompromised, cystic fibrosis
- Pregnancy
- Foreign travel and activities
- Previous stay in hospital
- Antibiotic treatment; previous, current or to have
- Mention of antibiotic therapy in diarrhoea will alert the laboratory to the possibility of *C.difficile*.

It is important that wherever possible specimens should be taken before the commencement of antibiotic therapy.

An important exception to this is when a patient is suspected of having meningitis where antibiotics should always be given as soon as possible as it may be lifesaving.

### **Patient consent**

It is important to ensure patient consent has been obtained prior to submitting specimens for testing where there are clinical grounds for suspecting HIV, Hepatitis B and Hepatitis C infections.

Patients must understand what they are being tested for, and pre and post counselling **MUST** be offered for HIV tests.

**Indication that consent has been given must be made clear on the request form. This can be done by ticking the appropriate box when making a request via ICE, or hand written on the request form.**

### **Private patients – Non NHS tests**

All tests that are classed as either Category 2 or private are not covered by the NHS and will incur a charge. These are essentially tests which are not performed for **diagnostic** reasons. Tests requested under the following categories are normally classed as non NHS work incurring a charge:

- Occupational Health screens for your own employees or required by the patient's employer
- Emigration screens
- Pre-employment screens
- Dental screens
- University screens
- Private medicals
- Insurance medicals
- Travel checks
- Screening for foreign nationals

For the categories listed above please ensure the 'Private' category is selected when requesting a test using the ICE system. If requesting a test manually please ensure the request form clearly states that this is a 'private' test.

Patients must be made aware that all non-NHS tests will incur a charge. For all non-NHS test requests the Trust will invoice the **requestor/GP practice** directly for full payment unless an alternative arrangement has been made in advance.

Please note where the patient is to be charged directly, payment **MUST** be paid in advance of the test being requested. Please contact the laboratory prior to requesting the test in order to arrange for payment to be made.

For Microbiology tests there is a standard charge of £65 per test inclusive of VAT and consultant authorisation.

### **Specimens**

All specimens **MUST** be labelled with the following:

**Full patient name or coded identifier**

**Date of birth**

**NHS number (or CHI number if a Scottish resident)**

and should have the following:

**Date and time of specimen collection**

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All of these requirements are met by using ICE order communications to select and request Microbiology tests.

By using ICE requesting it ensures the essential information is on the specimen by providing printed stickers with the essential information to be stuck to the specimen container.

ICE also has added benefits:

- Essential patient and request information is sent electronically to Microbiology preventing transcription errors that can occur with manual written request forms.
- Request form and specimen labels are printed at the same time.
- Gives users guidance on tests, specimen containers and types of sample to be taken.

**Unlabelled or inadequately labelled specimens WILL NOT be processed and will be rejected. You will receive notification of this, if you have provided a name and location on the request form.**

The laboratory will **NOT** accept any specimen that has less than the 3 essential patient identifiers:

**Full patient name or coded identifier**

**Date of birth**

**NHS number (or CHI number if a Scottish resident)**

**ALL HIGH RISK specimens MUST have 'Danger of Infection' stickers attached to both the specimen and request form.**

### **Special exceptions to the acceptance criteria**

**GUM clinics** - patient identities are kept confidential. Patients are given a unique identifier which **MUST** be provided on the request form, with the patient's correct date of birth.

**Prisons** – Full name and date of birth **MUST** be provided, however an individual's prison number can be provided instead of an NHS number.

### **Multiple specimen requirements**

The laboratory requires a primary blood sample for any blood test. If a patient requires multiple tests for Microbiology, Clinical Chemistry, Haematology, Immunology or a specific referred test then please ensure a separate clotted blood sample is taken where appropriate for each specific speciality.

If only one tube is received for multiple testing including Clinical Chemistry, Microbiology/ Immunology investigations only the Clinical Chemistry assays will be performed and a repeat samples will be requested.

If Microbiology and Immunology/referred test are requested, then the Microbiology test will be performed and repeat samples for the other tests will be requested.

## High risk specimens and safety

Include those from known or suspected cases of:

HIV/AIDS infection

Hepatitis B

Hepatitis C

*E.coli* O157

*Mycobacterium tuberculosis* (TB)

*Salmonella typhi* (Typhoid fever)

nvCJD or Creutzfeldt Jakob

All other Hazard group 3 and 4 organisms (Advisory Committee on Dangerous Pathogens)

Specimens **MUST** be labelled with “**Danger of Infection**” stickers on the specimen and request form. The form must be folded inwards to ensure confidentiality. The specimen must be sealed in the plastic transport bag. The specimen must then be placed in a second plastic bag and sealed.

## Health and safety

When preparing to obtain specimens, always follow local health and safety guidelines to protect patients and healthcare professionals. Always practice good hand hygiene and wear appropriate personal protective equipment (PPE).

Investigations on high risk samples should be kept to the minimum required for diagnosis and management of the patient.

Care **MUST** be taken when using needles and other sharps, and they **MUST** be disposed of immediately after use into a sharps container. Any spillages of blood, body fluids or tissue **MUST** be disposed of in clinical waste and appropriate disinfectant used to decontaminate the area. It is essential that specimens are not contaminated with disinfectant as this may affect the result; please contact the laboratory for advice if required.

## Specimen Ordering on ICE/Electronic Requesting - Guidance for Use

There are comprehensive manuals built into ICE, available to all users. Shorter guides and demonstrations are also available on the Trust Intranet training pages.

External link: [http://intranet/it\\_training/icedesktop.htm](http://intranet/it_training/icedesktop.htm)

## Contact Names for ICE

For Pathology Trust wide, please email [application.management@nhct.nhs.uk](mailto:application.management@nhct.nhs.uk) or telephone the Application Management Computer Services on 0191 3499611, or contact Computer services help desk internally on extension: 31311

If you wish to request any special requirements, changes or have concerns regarding the Microbiology test requesting on particular ICE pages then please contact the following:

Hospital wards/ departments/ clinics: Gordon Clay on extension: 39621 or email [Gordon.clay@nhct.nhs.uk](mailto:Gordon.clay@nhct.nhs.uk)

Primary care GPs/ community: Sharron Hodson on extension: 31653 or email [Sharron.hodson@nhct.nhs.uk](mailto:Sharron.hodson@nhct.nhs.uk)

### **Specimen collection – Microbiology**

Before collecting any specimen from a patient, you MUST determine the correct identity of the patient, and verify any important information that may affect the specimen collection or test results, for example medication status. If it is still applicable to collect the sample, then record any pertinent information in the clinical details section of the request form.

It is important that the laboratory receives the correct specimen type in the correct container. Specimens for bacteriological investigation should be collected into a sterile, laboratory specified container. This ensures that there are no contaminating organisms that may interfere with the interpretation of the investigation and that there are no substances present in the container which may affect the culture of any microorganisms.

- Use sterile containers for microbiological investigations as indicated in the table below.
- Specimens should be obtained before antimicrobial agents have been administered whenever possible. An important exception to this is when a patient is suspected of having meningitis where antibiotics should always be given as soon as possible as it may be lifesaving.
- An adequate quantity of material should be obtained for complete examination unless otherwise stated.
- Always send pus rather than a swab of the pus.
- The specimen taken should be representative of the disease process.
- Care must be taken to avoid contamination of the specimen by microorganisms normally found on the skin and mucus membranes. Sterile equipment and aseptic technique must be used for collecting specimens, particularly for those from normally sterile sites.

Specimens must be transported to the laboratory as soon as possible, ideally within the same day. Fastidious organisms may not survive storage or may be overgrown by less fastidious organisms before culturing.

The maximum time for which samples may be stored before examination commences is indicated in the table below, to ensure the integrity of the sample, however it is preferable that transport to the laboratory is as soon as possible. When taking samples, requestors should refer to the laboratory specimen reception opening hours and availability of transport for samples, particularly on evenings and weekends to prevent unnecessary delays



NHS GENERAL

| TEST  | SPECIMEN TYPE   | SPECIFIED CONTAINER   | SPECIFIC VOLUME   | ALTERNATIVE CONTAINER  | MAXIMUM STORAGE   |
|---|---|---|---|------------------------|---|
| Blood culture   | Blood   | Adults: BD aerobic and anaerobic bottles<br><br>Paediatric: BD Paed bottle  | Adults: 8-10 mls of venous blood into each bottle<br><br>Paeds: 3ml or less of venous blood   | NA                     | NA – <b>MUST</b> be sent to the laboratory immediately.   |
| <b>Chlamydia PCR</b>  | Endocervical, Rectal, Throat, Neonatal Eye swabs<br><br>Urethral swab<br><br><b>Urine</b> | Aptima Multitest swab collection kit<br><br>Aptima unisex swab collection kit<br><br><b>Aptima Urine collection kit</b> | NA<br><br>NA<br><br><b>Fill tube to between the two black lines using the pipette provide</b> | NA<br><br>NA<br><br>NA | 60 days at room temperature for swab<br><br>60 days at room temperature for swab<br><br>30 days at room temperature for urine |
| Carbapenemase detection by PCR  | Rectal swab   | Purple topped liquid transport swab   | NA  | NA                     | Refrigeration or room temperature for 3 days  |
| CSF for microscopy, culture, Virology, TB, CJD (prions)   | Cerebrospinal fluid   | Sterile white topped universal supplied in packs  | NA  | NA                     | NA – <b>MUST</b> be sent to the laboratory immediately.   |
| <b>Faeces: bacterial and viral pathogens including Norovirus</b><br><br><b>Parasites</b><br><br><b>C. difficile</b><br><br><b>H. pylori</b> | <b>Faeces</b>   | <b>Blue screw cap container with spoon</b>  | <b>¼ of the container MUST be filled</b>  | NA                     | Refrigeration 24 hours  |
| Flu PCR – Influenzae A , B & swine Flu  | Nose/throat swab  | Green topped liquid transport swab  | NA  | NA                     | NA – should be sent to the laboratory immediately.  |
| Fluids (culture and microscopy)<br><br>Crystals   | Ascitic/<br>Peritoneal<br><br>Synovial<br><br>BAL<br><br>Pleural                          | Sterile white topped universal container  | NA  | NA                     | NA – should be sent to the laboratory immediately.<br><br>Refrigeration 24 hours  |

NHS GENERAL

|   |  |   |  |   |   |
|---|--|---|--|---|---|
| <b>Fungal</b>   | Nails and clippings<br>Skin scrapings<br>Hair                              | Dermapack collection kit  | NA   | NA  | Room temperature  |
| <b>Gonorrhoea PCR</b>                                 | Endocervical, Rectal, Throat, Neonatal Eye swabs<br>Urethral swab<br>Urine | Aptima Multitest swab collection kit<br>Aptima unisex swab collection kit<br>Aptima Urine collection kit  | NA<br>NA<br>Fill tube to between the two black lines using the pipette provide   | NA<br>NA<br>NA  | 60 days at room temperature for swab<br>60 days at room temperature for swab<br>30 days at room temperature for urine |
| <b>Herpes PCR (HSV I and II)</b>                      | Swab of vesicle fluid/lesion   | Aptima Multitest swab collection kit  | NA   | Green topped liquid transport swab                    | Refrigeration or room temperature for 3 days  |
| <b>Infant respiratory screen – RSV, Flu A &amp; B</b> | Nasopharyngeal secretions (NPS)  | Sterile white topped universal container  | NA   | Green topped liquid transport swab - Nose/throat swab | NA – should be sent to the laboratory immediately.  |
| <b>Legionella antigen test</b>                        | Urine  | Sterile white topped container  | 1ml  | NA  | Refrigeration 24 hours  |
| <b>MRSA screening</b>                                 | Nose and groin swab  | White topped dual liquid swab (pack includes a red swab for swabbing groin area. Please note the white swab used for the nose must be snapped off into the container) | Take groin swab with red swab and mix in liquid and then discard.<br>Take nose swab with white swab and snap this off into the liquid. | NA  | Refrigeration 24 hours  |
| <b>Pneumococcal antigen test</b>                      | Urine  | Sterile white topped container  | 1ml  | NA  | Refrigeration 24 hours  |
| <b>Pus – any site</b>                                 | Pus  | Sterile white topped container  | NA   | NA  | Refrigeration 24 hours  |
| <b>Pus - intraoperative</b>                           | Pus  | Sterile white topped container  | NA   | NA  | NA – should be sent to the laboratory immediately.  |
| <b>Sputum for respiratory pathogens including TB</b>  | Sputum   | Sterile silver screw cap 60ml universal   | NA   | NA  | Refrigeration 24 hours  |

NHS GENERAL

|   |   |   |   |                                |  |
|---|---|---|---|--------------------------------|--|
| <b>Staph aureus screening</b>   | Nose and groin swab   | White topped dual liquid swab (pack includes a red swab for swabbing groin area. Please note the white swab used for the nose must be snapped off into the container) | Take groin swab with red swab and mix in liquid and then discard. Take nose swab with white swab and snap this off into the liquid. | NA                             | Refrigeration 24 hours                             |
| <b>Swabs (culture) for bacterial/fungal pathogens including GC</b>                                  |   |   |   |                                |  |
| <b>Eye, Ear, Nose, Throat, Mouth</b><br><b>Endocervical, HVS, Urethral, Penile</b><br><b>Wounds</b> | Swab of the affected area, taking care not to contaminate with commensal/colonising organisms | Purple topped liquid culture swab   | NA  | NA                             | Refrigeration 24 hours                             |
| <b>Whooping cough</b>   | Per nasal swab  | blue topped charcoal tran swab with fine metal shaft  | NA  | NA                             | NA – should be sent to the laboratory immediately. |
| <b>Line tips</b>  | Tip   | Sterile silver screw cap 60ml universal   | 5 cms   | Sterile white topped container | Refrigeration 24 hours                             |
| <b>Theatre Tissue</b>   | Tissue Orthopaedic samples  | Sterile white topped container  | Tissue from the affected area   | NA                             | NA – should be sent to the laboratory immediately. |
| <b>Urine for microscopy and culture</b>   | Urine   | Adults: Red topped 25ml boric acid universal container<br><br>Paediatric/elderly/ small sample volumes: Red topped 5ml boric acid container                           | Fill to the black line<br><br>Fill to the black line  | NA<br><br>NA                   |  |
| <b>Urine for TB</b>   | 3 separate Early morning urine (EMU)  | Adults: Red topped 25ml boric acid universal container  | 3 separate EMU - Fill to the black line   | Sterile white topped container |  |
| <b>Pregnancy test</b>   | Early Morning Urine   | Sterile white topped container  | 1ml   | NA                             | Refrigeration 24 hours                             |

**Please note that the highlighted specimens are volume dependant and will be rejected if the minimum volume of sample is not provided as results cannot be guaranteed.**

NHS GENERAL

Specimens delayed in transport will have a comment added to the report which states 'The date on the request form/specimen does not match the date when the sample was handed in. The result must be interpreted with caution'

**Specimen collection – Serology/Virology**

The date of onset is critical to interpreting serological tests. Serum should be taken as early as possible in the illness and during convalescence, 10 to 14 days later, in order to detect rising antibody levels.

The following containers are available for Serology/Virology investigations:

| SPECIMEN CONTAINER | TYPE                               | VOLUME                                      | MAXIMUM STORAGE        |
|--------------------|------------------------------------|---|------------------------|
| Clotted blood      | Yellow topped vacutainer           | Adults: 5 mls minimum<br>Paed: 1 ml minimum | Refrigeration 24 hours |
| EDTA               | Purple topped vacutainer           | Adults: 5 mls minimum<br>Paed: 1 ml minimum | Refrigeration 24 hours |
| Swab               | Green topped liquid transport swab | NA  | Refrigeration 24 hours |

All blood samples must be mixed after collection to ensure any additive is mixed. It is recommended that the tubes should be gently inverted 180° and back 8-10 times.

Severe haemolysis of blood or lipaemic specimens may compromise the results of serology assays.

Fresh blood should be left at room temperature to clot.

Do not freeze or overcool any whole blood samples.

**Specimen collection – QuantiFERON Gold**

| SPECIMEN CONTAINER | TYPE             | VOLUME  | MAXIMUM STORAGE   |
|--------------------|------------------|---|---|
| Clotted blood      | Green – TB1      | Exactly 1ml of blood. The level <b>MUST</b> be within the thick black line printed on the side of each tube | NA – should be sent to the laboratory immediately and are to be received by no later than 17:00 on the same day of collection Monday - Friday |
|                    | Yellow – TB2     |   |   |
|                    | Grey – Nil       |   |   |
|                    | Purple - Mitogen |   |   |

**Please note that these specimens will be rejected if the minimum volume of sample is not provided as this will affect the test and may give inaccurate results.**

**Specimen collection – Semen analysis**

| TEST                  | SPECIMEN TYPE  | SPECIFIED CONTAINER  | SPECIFIC VOLUME | ALTERNATIVE CONTAINER | MAXIMUM STORAGE   |
|-----------------------|--|--|-----------------|-----------------------|---|
| Post vasectomy screen | Semen sample 16 weeks post op and following at least 20 ejaculates | TOXICITY TESTED - Sterile red screw cap 125ml semen collection container | NA              | NA                    | Urgent – must be transported to the laboratory within 4 hours |

**Specimen collection instructions:**

Instructions or guidelines for specimen collection are provided with some containers, swabs and collection devices or are available from the laboratory on request.

Collection guidelines are available for the following:

- Chlamydia and Gonorrhoea PCR - Aptima Multitest swab collection kit, Aptima unisex swab collection kit and Aptima Urine collection kit
- QuantiFERON Gold specimens









**Please refer to the following for further collection information:**

**Appendix A – Semen analysis**

**Appendix B – Other Microbiology specimen collection**

NHS GENERAL

**Specimen containers:**

|  |  |
|--|--|
|  <p><b>Blood cultures:</b><br/>Aerobic – Blue capped<br/>Anaerobic – purple capped<br/>Paediatric – pink capped</p> |  <p><b>Purple topped liquid swab - culture</b></p>         |
|  <p><b>Clotted blood – yellow topped vacutainer</b></p>  |  <p><b>White topped liquid swab – MRSA screening</b></p>  |
|  <p><b>EDTA – purple topped vacutainer</b></p>  |  <p><b>Green topped liquid swab – Virology</b></p>       |
|  <p><b>Blue topped screw cap with spoon</b></p>   |  <p><b>Sterile silver topped screw cap universal</b></p> |

NHS GENERAL

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|  <p><b>Dermapak</b></p>                             |  <p><b>Per nasal swab</b></p>                    |
|  <p><b>Aptima Multitest swab collection kit</b></p> |  <p><b>Aptima Unisex swab collection kit</b></p> |
|  <p><b>Aptima Urine collection kit</b></p>         |  <p><b>QuantifERON-Gold (All 4 tubes)</b></p>   |

NHS GENERAL

**Packaging routine specimens for microbiology**

All specimens for Microbiology, Serology or Immunology **MUST** be placed into a blue specimen bag and sealed. The request form should be folded and slotted into the back pocket and then sealed.



Place the labelled specimens in a **BLUE** coloured ICE pouch and seal on the ward/dept. or surgery.  
Slot the folded ICE request form into the back pocket and seal.

All specimens for Microbiology, Serology or Immunology **MUST** be placed into a BLUE transport bag, and sealed ready for transport to the laboratory.



Place all BLUE ICE pouches into a **BLUE** transport bag, ready for collection and transportation.  
If transportation is to be delayed, store appropriately – see previous table with storage details and times

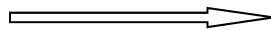


NHS GENERAL

**Packaging urgent specimens for microbiology**

All urgent specimens for Microbiology **MUST** be placed into a BLUE ICE pouch, sealed, with the request form folded and slotted into the back pocket, and also sealed.

All urgent Microbiology specimens **MUST** be placed into a BLUE transport bag and sealed.



Place sealed transport bags into transport box and close zip. Ensure the transport box is labelled with the correct destination.



Secure zip with plastic seal

Take the urgent specimen, secured in the transport bag, to the collection point and place into a transport box. Close the zip and secure with plastic seal. Ensure the correct destination is attached to the transport box.

## NHS GENERAL

### **Transport of specimens to microbiology**

Once appropriately sealed and packaged, samples for Microbiology require safe transportation to the Microbiology laboratory at NTGH.

#### **At NTGH**

A pneumatic tube system is installed for the rapid transportation of samples to Pathology specimen reception. This system operated 24/7 and samples **MUST** be secured and sealed in a Blue ICE pouch and placed in the appropriate container for transport in the pneumatic tube pod.

**\*\*Samples NOT** suitable for transport in the pneumatic tube system are: CSF, ASF and high risk samples.

Glass **MUST** never be transported in the pneumatic tube system.

Alternatively please arrange for a porter to collect and deliver samples.

#### **At NSECH, WGH and HGH**

There are scheduled transport times from each location to the Microbiology at NTGH. Please see details on next page of when the courier vans operate.

### **Urgent transport of specimens from NSECH, WGH AND HGH**

Always contact the Microbiology department if a sample requires urgent processing. Please give the laboratory the following information:

- Patient name
- Patient DOB
- Patient NHS or trust number
- Specimen type
- Contact name and telephone/bleep number for results

**NB: Where urgent sample are taken outside of core hours and there are no imminent scheduled vans to transport the sample, contact the Microbiology department to enable them to arrange transport of the specimen to NTGH.**

## Transport times for Microbiology Specimens from NSECH

For specimens going to NTGH for processing send the samples to Pathology at NSECH for collection.

**Scheduled van runs from NSECH Pathology to NTGH**

**Monday to Friday: 08:20/09:40/11:00/11:30/12:50/13:10/14:10/15:35/16:40/18:30**

**Saturday/ Sunday & Bank Holiday: 07:40 / 09:15 / 10:30 / 11:15 / 12:25 / 13:35 / 14:40 / 15:30 / 16:20/18:30**

For any urgent Microbiology samples, including blood cultures which are to be sent outside of these scheduled times please contact the Microbiology laboratory and they will arrange transport. Please send the sample **immediately** to Pathology NSECH for collection.

## Transport times for Microbiology Specimens from WGH

**Scheduled van runs from WGH Pathology to NTGH**

**Monday to Friday- 09:10 / 10:00 / 10:30 / 11:00 / 12:30 / 13:15 /14:40 / 15:00/ 16:00 / 18:30 - from Pathology**

**\*\*Saturday/ Sunday & Bank Holiday - 09:30 from Pathology and 13:00, 17:50 from ECC**

**NB From 18:30 to midnight the collection point is in the ECC-7 days per week  
From Midnight to 08:00 contact the Night Nurse practitioner to arrange a collection.**

**NB:** For any urgent Microbiology samples, including blood cultures which are to be sent outside of these scheduled times please contact the Microbiology laboratory and they will arrange transport. The requestor **MUST** ensure samples are packaged and taken to the collection point for transport. This is located at the reception desk in ECC (the former A&E reception desk).

## Transport times for Microbiology Specimens from HGH

**Scheduled van runs from HGH Pathology**

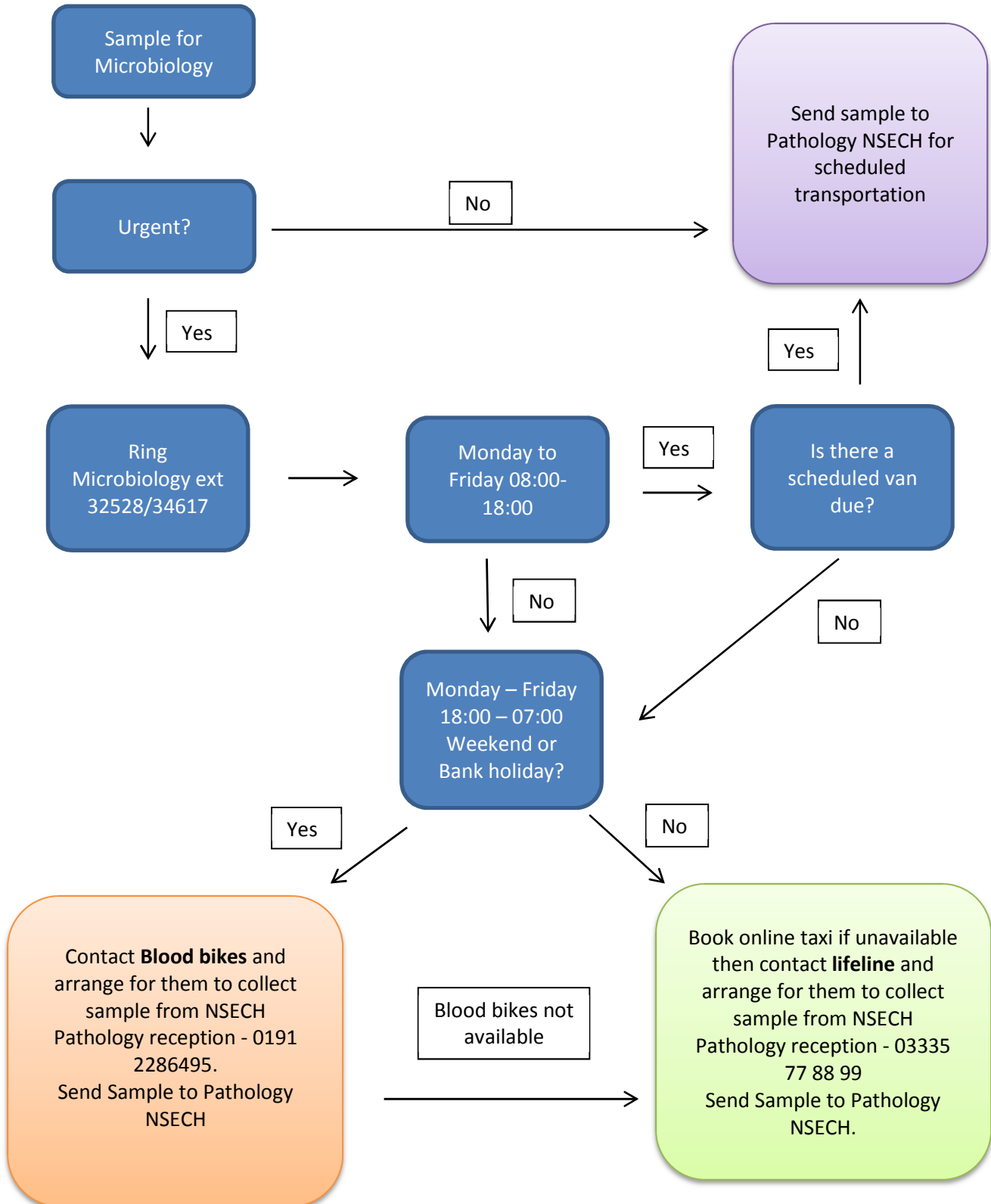
**Monday to Friday- 09:30 / 13:30 / 16:45 from Pathology**

**\*\*Saturday/ Sunday & Bank Holiday – 13:00 from Pathology, out of hours from ECC**

**NB From 16:45 to midnight the collection point is in the ECC – 7 days per week. From midnight to 08:00 contact the Night Nurse Practitioner to arrange a collection.**

**NB:** For any urgent Microbiology samples, including blood cultures which are to be sent outside of these scheduled times please contact the Microbiology laboratory and they will arrange transport. The requestor **MUST** ensure samples are packaged and taken to the collection point for transport.

## Transportation of urgent Microbiology samples from NSECH to NTGH



## Courier contact details

### Blood bikes:

Blood Bikes are available from 7pm to 7am Monday to Friday and at weekends on **0191 228 6495**

If Blood Bikes are contacted; there is no necessity for a Taxi slip. Request a category 2 transport for an urgent request. Clearly state where the sample is to be collected from and where it is to be delivered to. Samples may be sent to Pathology at NSECH or the collection point at WGH and HGH for collection. The driver will give you a completed collection/delivery receipt on arrival

### Taxis:

If Blood Bikes are not available please make an online booking for a taxi. Request urgent transport and clearly state where to collect the sample from and where to deliver it to.

### Life line:

If there are no blood bikes or taxi's available then contact Lifeline on **03335 77 88 99**, the samples should be sent to Pathology at NSECH or the collection point at WGH and HGH for collection with an accompanying signed taxi slip. Complete a taxi booking form and give the blue copy to the driver with the transport box.

### GP surgeries

There are regular scheduled van runs to all GP surgeries through the day Monday to Friday, transporting samples to Microbiology at NTGH. Information is available on request from the Pathology Services Coordinator.

### Additional tests

If additional examinations are required after the sample has been received by the laboratory please contact the department who will advise accordingly.

Additional tests requests will be dependent upon the length of initial time taken for the sample to arrive in the laboratory, the sample type and the volume of sample stored.

A new request form will be required for additional tests. Please indicate in the clinical details of the request form that the specimen has already been sent to the laboratory and is being stored.

### Microbiology supplies

All supplies including request forms, specimen containers and transport bags are issued by the local Pathology specimen reception departments at NTGH, WGH and HGH. It is important to ensure that requests for supplies are made between the hours of 9am - 4pm Monday to Friday.

## NHS GENERAL

### **Wansbeck General Hospital: Monday – Friday 9am - 4pm**

- By telephone: (01670) 521212 ext. 33758. If no one is available please leave a message on the answer-phone.
- By completion of a laboratory supplies requisition form which may be either emailed or posted.

### **Hexham General Hospital: Monday – Friday 9am - 4pm**

- By telephone (01434) 605001
- By completion of a laboratory supplies requisition form. This may be posted in or faxed to (01434)655017

### **North Tyneside General Hospital: Monday – Friday 9am - 4pm**

- By Telephone : 0344 811 8111 ext. 32031 (Pathology Specimen Reception)
- By completion of a laboratory supplies requisition form This may be posted in.

### **Northumbria Specialist Emergency Care Hospital: Monday - Friday 9am – 4pm**

- By telephone: (01670) 521212 ext. 33758. If no one is available please leave a message on the answer-phone
- By completion of a laboratory supplies requisition form which may be posted

**\*\*Please note there is no local provision of supplies at NSECH, supplies are provided from the WGH site. If supplies are required outside of the ordering times, please contact specimen reception at NSECH as they may be able to provide limited supplies but this not guaranteed. Please ensure you have enough supplies in your ward and departmental areas.**

### **General Practitioners: Monday – Friday 9am – 4pm**

- By telephoning your local hospital Pathology Specimen reception.
- By completion of a laboratory supplies requisition form which may be posted or faxed as appropriate to your local hospital Pathology Specimen reception.

NHS GENERAL

TEST REPERTOIRE

MICROBIOLOGY INVESTIGATIONS

| Type of Investigation | Container/Volume   | Storage  | Investigation Time   | Comments  | Reference Ranges (where applicable) |
|-----------------------|--|--|--|---|-------------------------------------|
| Blood culture         | Adults: BD aerobic and anaerobic bottles 8-10 mls of venous blood into each bottle   | NA – should be sent to the laboratory immediately. | Negative culture: 5 days<br>Positive culture: Usually 24-48 hours. | Positive cultures will be telephoned to either the ward nursing staff or medical staff.<br><br>If clinical advice is required contact a medical Microbiologist. | NA                                  |
|                       | Paediatric: BD Paed bottle 3ml or less of venous blood                               |  |  |   |                                     |
| Chlamydia PCR         | Endocervical, Rectal, Throat, Neonatal Eye swab Aptima Multitest swab collection kit | 60 days at room temperature for swab               | 72 hours   | Fill tube to between the two black lines using the pipette provide. If less volume is received then the specimen will be rejected.                              | NA                                  |
|                       | Urethral swab Aptima unisex swab collection kit                                      | 60 days at room temperature for swab               |  |   |                                     |
|                       | Urine Aptima Urine collection kit  | 30 days at room temperature for urine              |  |   |                                     |

NHS GENERAL

| Carbapenemase PCR                     | Rectal swab<br>Purple topped liquid transport swab  | Refrigeration or room temperature for 3 days                | 24 hours  | NA  | Must be discussed and authorised by a Microbiologist or Infection Control nurse.    |
|---------------------------------------|---|---|---|---|---|
| CSF for microscopy and culture        | Cerebrospinal fluid<br>Sterile white topped universal bottle pack – available from the Pathology laboratory | <b>URGENT</b> - MUST be sent to the laboratory immediately. | Microscopy including WCC/RBC and cell differential if appropriate, gram stain for organisms processed urgently and results telephoned within 2 hours of receipt<br><br>Culture 3 days | Microscopy results will be telephoned to the requester.<br>Cell counts will not be reported and withheld if the specimen is more than 4 hours old on receipt in the laboratory. | **Please telephone the Microbiology lab before sending to arrange urgent processing |
| Faeces: bacterial and viral pathogens | Blue screw cap container with spoon.<br>At least ¼ of the container MUST be filled                          | Refrigeration 24 hours                                      | Negative 48 hours<br>Positive 72 hours  | ¼ of the container MUST be filled or the specimen will be rejected.   | NA  |
| Parasites including Cryptosporidia    |   |   | Negative 48 hours<br>Positive 72 hours  | Infection control are informed of ALL Positive <i>C. difficile</i> and Norovirus screens  |   |
| <i>C. difficile</i>                   |   |   | 24 hours  | <b>GDH testing is not covered by the current scope of UKAS accreditation</b>  |   |
| <i>H. pylori</i>                      |   |   | 2-3 days  |   |   |
| Norovirus                             |   |   | Negative and positive within 24 hours   | <b>Rota/Adeno virus is not covered by the current scope of UKAS accreditation</b>   |   |



NHS GENERAL

|                                      |  |  |  |   |    |
|--------------------------------------|--|--|--|---|----|
| Fluids:<br>Culture and<br>Microscopy | Asctic<br>Sterile white topped<br>universal container  | URGENT - should be<br>sent to the laboratory<br>immediately. | Microscopy URGENT<br>Negative culture 3 days   | Microscopy results will<br>be telephoned to the<br>requester.<br><br>Cell counts will not be<br>reported and withheld if<br>the specimen is more<br>than 4 hours old on<br>receipt in the laboratory. | NA |
|                                      | Peritoneal<br>Sterile white topped<br>universal container<br><br>Synovial<br>Sterile white topped<br>universal container |  | Positive culture 4 days  |   |    |
| Fluids:<br>Crystals                  | BAL<br>Sterile white topped<br>universal container<br><br>Pleural<br>Sterile white topped<br>universal container         | URGENT - should be<br>sent to the laboratory<br>immediately. | 3 days   | NA  |    |
|                                      | Synovial<br>Sterile white topped<br>universal container  |  | Microscopy URGENT  | Microscopy results will<br>be telephoned to the<br>requester<br><b>Crystals is not covered<br/>by the current scope of<br/>UKAS accreditation</b>   |    |
| Fungal                               | Nails and clippings<br>Skin scrapings<br>Hair<br><br>Dermapak collection kit   | Room temperature   | Microscopy 48 hours<br>Negative culture 4<br>weeks<br>Positive culture within 4<br>weeks | An interim report will be<br>issued with the<br>Microscopy result.<br><b>Myology is not<br/>covered by the current<br/>scope of UKAS<br/>accreditation</b>  | NA |

NHS GENERAL

|                                    |   |                                       |   |  |    |
|------------------------------------|---|---------------------------------------|---|--|----|
| Gonorrhoea culture and sensitivity | Endocervical and Urethral swabs, Neonatal eye swabs/<br>Purple topped liquid culture swab           | Refrigeration 24 hours                | Negative culture 48hours<br>Positive culture 3 days | Preferably send to laboratory same day as organism is fastidious and may not survive storage   | NA |
|                                    | Endocervical, rectal and throat swab.<br>Neonatal eye swab/<br>Aptima Multitest swab collection kit | 60 days at room temperature for swab  | 72 hours  | Urine tube MUST be filled with urine using pipette provided to between the two black lines. If less volume is received then the specimen will be rejected. | NA |
| Gonorrhoea PCR                     | Urethral swab/<br>Aptima unisex swab collection kit   | 60 days at room temperature for swab  |   |  |    |
|                                    | Urine/<br>Aptima Urine collection kit   | 30 days at room temperature for urine |   |  |    |
| Legionella antigen test            | 1ml Urine/<br>Sterile white topped container  | Refrigeration 24 hours                | 24 hours  | Urgent tests can be arranged – please telephone the laboratory   | NA |
| Line tips                          | 4 cms of Tip/<br>Sterile silver screw cap<br>60ml universal   | Refrigeration 24 hours                | Negative culture 48 hours                           | NA   | NA |
|                                    |   |                                       | Positive culture 3 days                             |  |    |

NHS GENERAL

|  |   |  |   |   |  |
|--|---|--|---|---|--|
| MRSA screening                                   | Nose and groin swab/<br>White topped dual liquid swab (includes a red swab to take groin swab, then a white swab for nose to be snapped off into the container) | Refrigeration 24 hours                                 | Negative screen 24 hours<br>Positive screen 72 hours  | Take groin swab with red swab and mix in liquid, and then discard. Take nose swab with white swab and snap off into the liquid.<br><br>Infection control is informed of ALL Positive screens. | NA   |
| Orthopaedic samples                              | Tissue or fluid from the affected area /<br>Sterile white topped container  | NA – should be sent to the laboratory immediately.     | 4 days  | NA  | NA   |
| Pneumococcal antigen test                        | 1ml Urine/<br>Sterile white topped container  | Refrigeration 24 hours                                 | 24 hours  | Urgent tests can be arranged – please telephone the laboratory  | NA   |
| Pus: Microscopy and culture                      | Pus - Intra-operative/<br>Sterile white topped container  | URGENT - should be sent to the laboratory immediately. | Microscopy same day<br>Negative culture 3 days        | NA  | *Pus is the preferred sample type to a swab if possible. |
|  | Pus – any other site/<br>Sterile white topped container   | Refrigeration 24 hours                                 | Positive culture 4 days                               |   |  |
| Sputum: culture and sensitivity                  | Sputum/<br>Sterile silver screw cap 60ml universal  | Refrigeration 24 hours                                 | Negative culture 48 hours<br>Positive culture 3 days  | Mucoid samples will be discarded.   | NA   |
| Sputum: Microscopy for AFB and TB investigations | Sputum/<br>Sterile silver screw cap 60ml universal  | Refrigeration 24 hours                                 | Microscopy for AFB provisional result within 24 hours | Microscopy for AFB and ALL TB culture/PCR are referred to PHE Newcastle (see referred work)   | NA   |

NHS GENERAL

|                                |   |                        |  |   |    |   |
|--------------------------------|---|------------------------|--|---|----|---|
| Staph aureus screening         | Nose and groin swab/<br>White topped dual liquid swab (includes a red swab to take groin swab, then a white swab for nose to be snapped off into the container) | Refrigeration 24 hours | Negative screen 24 hours<br>Positive screen 72 hours   | Take groin swab with red swab and mix in liquid, and then discard. Take nose swab with white swab and snap off into the liquid. | NA |   |
| Swabs: culture and sensitivity | Ears, Eyes, wounds/<br>Purple topped liquid culture swab  | Refrigeration 24 hours | Negative culture 48 hours<br>Positive culture 3 days   | Swab of the affected area, taking care not to contaminate with commensal/ colonising organisms.                                 | NA |   |
|                                | Throat, mouth   |                        | Negative culture 48 hours<br>Positive culture 48 hours |   |    |   |
|                                | Nose  |                        | Negative culture 24 hours<br>Positive culture 48 hours |   |    |   |
|                                | Endocervical (CX) and High Vaginal (HVS)  |                        | Negative culture 48 hours<br>Positive culture 3 days   |   |    | CX examined for <i>N. gonorrhoea</i> ONLY<br>HVS examined for routine bacteriology including candida, Trichomonas and Clue cells (BV) |
|                                | Urethral and penile   |                        | Negative culture 48 hours<br>Positive culture 3 days   |   |    | Examined for routine bacteriology including <i>N. gonorrhoeae</i>   |

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| Theatre Tissue                   | Tissue from the affected area / Sterile white topped container  | NA – should be sent to the laboratory immediately. | 4 days   | NA   | NA   |
|----------------------------------|---|--|--|--|--|
| Urine for microscopy and culture | <p>Adults: Red topped 25ml boric acid universal container/ Fill to the black line</p> <p>Paediatric, elderly or small sample volumes: Red topped 5ml boric acid container/ Fill to the black line</p> | Refrigeration 24 hours                             | <p>Microscopy same day</p> <p>Negative culture 24 hours</p> <p>Positive culture 2 days</p> | <p>All samples processed for Microscopy. If this indicates infection, or the following clinical details are provided, then culture will be carried out:</p> <p>16 years or under</p> <p>Pregnant</p> <p>Immunocompromised</p> <p>Oncology/chemotherapy</p> <p>ITU/ urology patient</p> <p>Long term steroids</p> <p><b>*High risk samples i.e. HIV/Hepatitis B or C/TB WILL NOT be process for Microscopy, culture ONLY will be carried out.</b></p> | <p>Microscopy:</p> <p>White Blood Cells:</p> <p>&lt;40 / µl</p> <p>40-100 / µl</p> <p>100-200 / µl</p> <p>&gt;200 / µl</p> <p>Culture:</p> <p>Doubtful positive culture: 10, 000 – 100, 000 orgs/ml</p> <p>Positive culture: &gt;100,000 orgs/ml</p> |
| Urine for TB investigations      | 3 separate Early morning urine (EMU)/ red topped boric acid container (fill to the black line) OR Sterile white topped container  | Refrigeration 24 hours                             | Culture: 2 – 12 weeks  | <p>**Referred to PHE Newcastle – see referred tests</p>  |  |

NHS GENERAL

|  |   |  |        |   |    |
|--|---|--|--------|---|----|
| Whooping cough ( <i>Bordetella pertussis</i> ) | Per nasal swab/ blue topped charcoal trans-swab with fine metal shaft | NA – should be sent to the laboratory immediately. | 7 days | Telephone laboratory for Per nasal swabs<br>A blood test for pertussis antibodies is available – see serology tests | NA |
|--|---|--|--------|---|----|

**SEROLOGY INVESTIGATIONS**

| Type of Investigation   | Container/ Volume    | Storage/ transport | Investigation Time          | Comments   | Reference Ranges (where applicable)   |
|---|----------------------|--------------------|-----------------------------|--|---|
| Bordetella pertussis toxin IgG/IgM                            | 5-10ml clotted blood | 4°C overnight      | 1 week                      | Test batched   | Reference ranges as advised by reference laboratory<br><40 IU Negative<br>>100 IU Positive in the absence of vaccination.<br>>40 - 100 IU a repeat sample may be required depending upon date of onset. |
| Borrelia IgM/IgG (Lyme Disease)                               | 5-10ml clotted blood | 4°C overnight      | 24 hours for negative tests | Sample must be taken 6 weeks after tick bite.<br><br>Reactive specimens sent to reference laboratory for confirmation                  | N/A   |
| CMV IgG, IgM<br><br>Avidity testing referred to Newcastle PHE | 5-10ml clotted blood | 4°C overnight      | 3-4 days                    | Avidity testing may be performed dependent upon the IgG/IgM result and patient information (Avidity testing referred to Newcastle PHE) | N/A   |
| Epstein Barr virus  | 5-10ml clotted blood | 4°C overnight      | 3-4 days                    |  | N/A   |

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|   |                      |               |   |   |   |
|---|----------------------|---------------|---|---|---|
| Erythrovirus B19 IgG/IgM (Parvovirus – slapped cheek) | 5-10ml clotted blood | 4°C overnight | 7 days.   | Telephone if urgent.<br>If pregnant please give details of pregnancy, date and nature of contact with erythrovirus infection. | N/A   |
| Hepatitis A IgG/IgM (HAV)                             | 5-10ml clotted blood | 4°C overnight | 3-4 days  |   | N/A   |
| Hepatitis C antibody (HCV)                            | 5-10ml clotted blood | 4°C overnight | 2 days  | Reactive specimens sent to Reference Laboratory for confirmation  | N/A   |
| Hepatitis B surface Antigen (HBsAg)                   | 5-10ml clotted blood | 4°C overnight | 2 days<br>Urgent results if required in about 4 hours during the normal working day | Reactive specimens sent to Reference Laboratory for confirmation  | N/A   |
| Hepatitis B surface Antibody                          | 5-10ml clotted blood | 4°C overnight | 2 days  |   | Reference ranges as per manufactures guidelines<br><10 IU/ml = Not Detected<br>10-100 IU/ml = Detected<br>>100 IU/ml = Detected |
| Hepatitis B core total                                | 5-10ml clotted blood | 4°C overnight | 2 days  | Reactive specimens sent to Reference Laboratory for confirmation.   |   |

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|   |                       |               |  |   |  |
|---|-----------------------|---------------|--|---|--|
| HIV   | 5-10ml clotted blood  | 4°C overnight | 2 days<br>Urgent results in about 4 hours during the normal working day. | Reactive specimens sent to reference laboratory for confirmation. Always obtain informed consent and indicate on form | N/A  |
| Measles - IgG                                     | 5-10ml clotted blood  | 4°C overnight | 24 hours for routine specimens   |   | N/A  |
| Pneumococcal and Haemophilus (HIB), antibody test | 5-10ml clotted blood  | 4°C overnight | 7 days   | Any concerns please contact Consultant Microbiologist   | Reference ranges as advised by reference laboratory<br>Pneumococcal antibody protective level: >35 mg/L<br>HIB antibody protective level: >1.5 mg/L  |
| Procalcitonin (PCT)                               | 5-10ml clotted blood  | 4°C overnight | 24 hours   | Test performed Monday – Sunday 8am – 5pm. MUST be authorised by Consultant Microbiologist                             | Please refer to the following link for interpretation and guidance.<br><a href="http://intranet/antibiotics/handbook/Z%20(5).%20PCT%20Algorithm.pdf">http://intranet/antibiotics/handbook/Z%20(5).%20PCT%20Algorithm.pdf</a> |
| Rubella IgG                                       | 5-10ml clotted Blood  | 4°C overnight | 48 hours   |   | Reference ranges as per manufactures guidelines<br><10 IU/ml = Not Detected<br>>10 IU/ml = Detected  |
| Syphilis serology (Treponema)                     | 5-10ml clotted blood  | 4°C overnight | 48 hours   | Reactive specimens referred to Reference Laboratory for confirmation  | N/A  |
| Toxoplasma  | 5-10 ml clotted blood | 4°C overnight | 3-4 days   | Positives sent to Reference Laboratory for confirmation   | N/A  |



NHS GENERAL

**VIROLOGY INVESTIGATIONS**

| Type of Investigation                      | Container/ Volume  | Storage  | Investigation Time | Comments | Reference Ranges (where applicable) |
|--|--|--|--------------------|----------|-------------------------------------|
| Herpes PCR (HSV I and II)                  | Aptima Multitest swab OR Green topped liquid swab of vesicle fluid/ lesion   | Refrigeration or room temperature for 3 days       | 3-4 days           | NA       | NA                                  |
| Influenzae A, B and swine flu              | Green topped liquid swab<br>Nose/throat swab   | NA – should be sent to the laboratory immediately. | Same day           | NA       | NA                                  |
| Infant respiratory screen – RSV, Flu A & B | Naso -pharyngeal secretions (NPS)<br>Sterile white topped universal container<br>OR Green topped liquid swab<br>Nose/throat swab | NA – should be sent to the laboratory immediately. | Same day           | NA       | NA                                  |
| Varicella zoster                           | 5-10 ml clotted blood  | 4°C overnight                                      | 3-4 days           | NA       | NA                                  |

**OTHER/MISCELLANEOUS INVESTIGATIONS**

| Type of Investigation                  | Container/ Volume   | Storage   | Investigation Time | Comments                                 | Reference Ranges (where applicable)  |
|--|---|---|--------------------|--|--|
| Pregnancy test                         | Sterile white topped universal 1ml EMU  | 4°C overnight   | 24 hours           | Tested routinely at 25 IU/Litre HCG      | Reference ranges as per manufactures guidelines<br>>=25 IU/L = Positive<br><25 IU/L = Negative |
| Semen analysis - Post vasectomy screen | TOXICITY TESTED - Sterile silver screw cap 60ml universal (available from the laboratory)<br>Semen 16 weeks post op and following 20 ejaculates | Urgent – must be transported to the laboratory within 4 hours | 24 hours           | ONLY tested Monday to Friday 08:30-16:30 | NA   |

## NHS GENERAL

### Tests referred to other laboratories

| Test  | Referral laboratory                            | Sample Type  | Sample Volumes                  | Comments  |
|---|--|--|---------------------------------|---|
| 16S PCR   | Great Ormond Street Hospital                   | Any sample from a normally sterile site. Isolates on slopes. | Minimum volume 200 microliters. | <b>Do not add any saline, water or other sterile fluids to samples being sent for 16s PCR</b> |
| <b>Acetyl Choline Receptor antibody (Immunology)</b>      | Immunology Queen Elizabeth hospital, Gateshead | Clotted blood (Gold top)                                     | 5ml adult, 1ml paed             |   |
| <b>Adenovirus PCR</b>                                     | PHE, Bristol                                   | Respiratory secretions, eye, Feaces, EDTA (Purple top)       | Blood - 5ml adult, 1ml paed     |   |
| <b>Amoebic IFAT serology</b>                              | Hospital for tropical diseases, London         | Clotted blood (Gold top)                                     | 5ml adult, 1ml paed             |   |
| <b>Anti adalimum ab</b>                                   | N/A  | N/A  | N/A                             | This is a Biochemistry test   |
| <b>Anti –Adrenal antibodies (Immunology)</b>              | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)                                     | 5ml adult, 1ml paed             |   |
| <b>Anti infliximab ab</b>                                 | N/A  | N/A  | N/A                             | This is a Biochemistry test   |
| <b>Anti- MUSK antibodies (Immunology)</b>                 | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)                                     | 5ml adult, 1ml paed             |   |
| <b>Anti TNF</b>   | N/A  | N/A  | N/A                             | This is a Biochemistry test   |
| <b>Anti-Cardiac antibodies (Immunology)</b>               | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)                                     | 5ml adult, 1ml paed             |   |
| <b>Antifungal Levels (Intraconazole and Voriconazole)</b> | Mycology reference unit, Manchester            | Clotted blood (Gold top)                                     | 5ml adult, 1ml paed             | Voriconazole pre-dose only.<br>Please include details of medication of request form.          |
| <b>Anti-GAD antibodies (Immunology)</b>                   | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)                                     | 5ml adult, 1ml paed             |   |
| <b>Anti-Gastric parietal (GPC) (Immunology)</b>           | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)                                     | 5ml adult, 1ml paed             |   |

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| Test   | Referral laboratory                                     | Sample Type                        | Sample Volumes                 | Comments   |
|--|---|------------------------------------|--------------------------------|--|
| <b>Anti-Histone antibody</b>   | Immunology,<br>Queen Elizabeth<br>hospital<br>Gateshead | Clotted blood<br>(Gold top)        | 5ml adult, 1ml paed            |  |
| <b>Anti-Neurophil<br/>Cytoplasmic antibodies<br/>(ANCA) (Immunology)</b> | Immunology,<br>Queen Elizabeth<br>hospital<br>Gateshead | Clotted blood<br>(Gold top)        | 5ml adult, 1ml paed            |  |
| <b>Anti-nuclear antibody<br/>(Immunology)</b>                            | Immunology,<br>Queen Elizabeth<br>hospital<br>Gateshead | Clotted blood<br>(Gold top)        | 5ml adult, 1ml paed            |  |
| <b>Anti-Ovarian<br/>antibodies<br/>(Immunology)</b>                      | Immunology,<br>Queen Elizabeth<br>hospital<br>Gateshead | Clotted blood<br>(Gold top)        | 5ml adult, 1ml paed            |  |
| ASO titre  | Freeman road<br>Hospital,<br>Newcastle                  | Clotted blood<br>(Gold top)        | 5ml adult, 1ml paed            |  |
| <b>AP100 (Immunology)</b>  | Immunology,<br>Queen Elizabeth<br>hospital<br>Gateshead | Clotted blood<br>(Gold top)        | 5ml adult, 1ml paed            | Must arrive at Gateshead within 4 hours of taking sample                   |
| <b>Aquaporin 4 antibodies<br/>(Immunology)</b>                           | Immunology,<br>Queen Elizabeth<br>hospital<br>Gateshead | Clotted blood<br>(Gold top)        | 5ml adult, 1ml paed            |  |
| <b>Aspergillus<br/>galactomannan<br/>Serology</b>                        | Freeman road<br>Hospital,<br>Newcastle                  | Clotted blood<br>(Gold top)        | 5ml adult, 1ml paed            |  |
| <b>Aspergillus precipitins<br/>Serology</b>                              | Cumberland<br>Infirmary                                 | Clotted blood<br>(Gold top)        | 6 ml                           |  |
| <b>Avian precipitins<br/>Serology</b>                                    | Cumberland<br>Infirmary                                 | Clotted blood<br>(Gold top)        | 6ml                            |  |
| <b>Bilharzia<br/>(Schistosomiasis)<br/>Serology</b>                      | Hospital for<br>tropical diseases,<br>London            | Clotted blood<br>(Gold top) or CSF | Blood 5ml adult,<br>1ml paed   |  |
| <b>BK Virus PCR</b>  | PHE, Bristol  | EDTA (Purple<br>top), Urine        | Blood - 5ml adult,<br>1ml paed |  |
| <b>Bordetella<br/>confirmation and<br/>serotyping</b>                    | BRD, Colindale  | N/A                                | N/A                            | If necessary the laboratory would send these isolates for further testing. |

## NHS GENERAL

| Test   | Referral laboratory                                  | Sample Type   | Sample Volumes      | Comments   |
|--|--|---|---------------------|--|
| <b>Bordetella pertussis PCR</b>                | Freeman road Hospital, Newcastle                     | Dry per nasal swab, Nasal pharyngeal aspirate if under 12 month | n/a                 |  |
| <b>Borrelia serology (lyme disease)</b>        | Freeman road hospital, Newcastle                     | N/A   | N/A                 | These samples are sent for confirmation if necessary.  |
| <b>Brucella antibodies</b>                     | Brucella reference unit, Liverpool PHE.              | Clotted blood   | 5ml adult, 1ml paed |  |
| <b>C. diphtheriae biotyping and toxogenity</b> | BRD, Colindale                                       | N/A   | N/A                 | If necessary the laboratory would send these isolates for further testing.   |
| <b>C.diff Ribotyping</b>                       | Leeds Infirmary                                      | Faeces  | n/a                 |  |
| <b>Candida mannan antibodies</b>               | PHE, Bristol   | Clotted blood (Gold top)  | 5ml adult, 1ml paed |  |
| <b>CH50/CH100 (Immunology)</b>                 | Immunology, Queen Elizabeth hospital Gateshead       | Clotted blood (Gold top)  | 5ml adult, 1ml paed | Must arrive at Gateshead within 4 hours of taking sample.  |
| <b>Chikungunya Serology</b>                    | Rare and imported pathogens laboratory, Porton down  | Clotted blood (Gold top)  | 5ml adult, 1ml paed | Please include relevant travel information in clinical details.  |
| <b>Chlamydia pneumoniae serology</b>           | PHE, Bristol   | Clotted blood (Gold top)  | 200ul               |  |
| <b>Chlamydia psittaci serology</b>             | PHE, Bristol   | Clotted blood (Gold top)  | 200ul               |  |
| <b>CJD CSF</b>                                 | National Creutzfeldt-Jakob disease surveillance unit | CSF   | 2-5 ml clear CSF    | URGENT- Please discuss with a consultant Microbiologist before the sample is collected to organise transport of this specimen.<br><br>Ward is to complete the request form and send this directly to the National Creutzfeldt-Jakob disease surveillance unit. The samples are sent to Microbiology NTGH |
| <b>CMV avidity (Serology)</b>                  | Freeman road Hospital, Newcastle                     | Clotted blood (Gold top)  | 5ml adult, 1ml paed |  |
| <b>CMV PCR</b>                                 | Freeman road Hospital, Newcastle                     | EDTA (Purple top), or Urine from child                          | 5ml adult, 1ml paed |  |

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| Test  | Referral laboratory                                 | Sample Type                     | Sample Volumes              | Comments   |
|---|---|---------------------------------|-----------------------------|--|
| <b>Coccidioides serology</b>  | PHE, Bristol  | Clotted blood (Gold top)        | 5ml adult, 1ml paed         |  |
| <b>Coeliac – Tissue Transglutminase (Immunology)</b>                          | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top)        | 5ml adult, 1ml paed         |  |
| <b>Coryne Diphtheria serology</b>   | BRD, Colindale                                      | Clotted blood (Gold top)        | 2-5 ml                      |  |
| <b>Coxsackie Serology</b>   | Epson and st Helier                                 | Clotted blood (Gold top)        | 2ml                         | Only sent Mon-Wednesday<br><br>Please telephone the laboratory when the sample has been collected.   |
| <b>Cryptococcal antigen (Serology)</b>  | Freeman road Hospital, Newcastle                    | CSF or Clotted blood (Gold top) | (Blood) 5ml adult, 1ml paed |  |
| <b>Cryptosporidium genotyping for epidemiology (PCR)</b>                      | Cryptosporidium reference unit, PHW                 | N/A                             | N/A                         | If necessary the laboratory would send positive specimens for further testing.   |
| <b>Cyclic citrillated peptide (CCP) (Immunology)</b>                          | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top)        | 5ml adult, 1ml paed         |  |
| <b>Dengue fever Serology</b>  | Rare and Imported Pathogens laboratory, Porton down | Clotted blood (Gold top)        | 5ml adult, 1ml paed         | Please include relevant travel information in clinical details.  |
| <b>ds-DNA (DNA binding)</b>   | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top)        | 5ml adult, 1ml paed         |  |
| <b>E.coli 0157 confirmation, phage typing, vero cyto toxin gene detection</b> | BRD, Colindale                                      | N/A                             | N/A                         | If necessary the laboratory would send these isolates for further testing.   |
| <b>Ebola (and other VHF) PCR</b>  | Rare and Imported Pathogens laboratory, Porton down | EDTA (Purple top)               | 4.5ml                       | Please contact Consultant Microbiologist before taking samples if VHF is suspected.<br><br>For paediatric samples, the minimum sample is 1 mL of blood for VHF testing (either screw top bottles or vacutainers are acceptable). However, a full imported infections screen at RIPL may not be possible with this amount and a larger volume is still preferred if possible. Ideally, a urine sample as well. Testing should not be delayed to obtain a urine sample |

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| Test   | Referral laboratory                            | Sample Type                      | Sample Volumes            | Comments   |
|--|--|----------------------------------|---------------------------|--|
| <b>Echinococcus serology/Hydatid Serology</b>                        | Hospital for tropical diseases, London         | Clotted blood (Gold top) and CSF | Blood 5ml adult, 1ml paed |  |
| <b>Endocrine Antibody's</b>  | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)         | 5ml adult, 1ml paed       |  |
| <b>Entamoeba histolytica serology</b>                                | Hospital for tropical diseases, London         | Clotted blood (Gold top)         | 5ml adult, 1ml paed       |  |
| <b>Enterobacteriaceae further sensitivities if required</b>          | BRD, Colindale                                 | N/A                              | N/A                       | If necessary the laboratory would send these isolates for further testing. |
| <b>Epstein-Barr Virus PCR</b>  | Freeman road Hospital, Newcastle               | EDTA (Purple top)                | 5ml adult, 1ml paed       |  |
| <b>Ethambutol assay</b>  | Cardiff Toxicology Laboratory's                | EDTA (Purple top)                | 2ML                       | Details of current medication MUST be given                                |
| <b>Extractable nuclear antigens (Immunology)</b>                     | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)         | 5ml adult, 1ml paed       |  |
| <b>Farmers lung</b>  | Cumberland infirmary                           | Clotted blood (Gold top)         | 6ml                       |  |
| <b>Ganglioside antibody (GM1 and GQ1B) (Immunology)</b>              | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)         | 5ml adult, 1ml paed       |  |
| <b>Glomerular basement membrane(GBM) (Immunology)</b>                | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)         | 5ml adult, 1ml paed       | URGENT - if pulmonary bleeding/haemorrhage, Good pasteurs syndrome.        |
| <b>Group A b-haemolytic streptococci (Str. Pyogenes sero typing)</b> | BRD, Colindale                                 | N/A                              | N/A                       | If necessary the laboratory would send these isolates for further testing. |
| <b>H.influenza serotyping</b>  | BRD, Colindale                                 | N/A                              | N/A                       | If necessary the laboratory would send these isolates for further testing. |

## NHS GENERAL

| Test   | Referral laboratory              | Sample Type   | Sample Volumes      | Comments  |
|--|----------------------------------|---|---------------------|---|
| <b>H.pylori culture</b>  | BRD, Colindale                   | Culture or Gastric biopsies in sterile saline/dents transport media.                | N/A                 | <p>Please discuss with a Microbiologist before sending the samples. Avoid sending samples on Friday.</p> <p>Dents transport media is obtained from BRD, Colindale and must be ordered in advance; please contact the laboratory to do this.</p> <p>Before the biopsy is taken a treatment free interval is needed. This is ideally 2 weeks off proton pump inhibitor and 4 weeks off antibiotics.</p> |
| <b>Hepatitis B confirmation Serology and Hepatitis B core/markers serology</b> | Freeman road Hospital, Newcastle | Clotted blood (Gold top)  | 5ml adult, 1ml paed |   |
| <b>Hepatitis B viral load (PCR)</b>  | Freeman road Hospital, Newcastle | EDTA (Purple top)   | 5ml adult, 1ml paed | Not Occupational health, these are sent to Birmingham.  |
| <b>Hepatitis B viral load (PCR) from Occupational health only</b>              | PHE, Birmingham                  | 1 EDTA sample (Purple top) more samples may be required depending upon the results. | 2ML                 | <b>URGENT – please telephone Microbiology as soon as this sample has been collected.</b>  |
| <b>Hepatitis C confirmation Serology IGG</b>                                   | Freeman road Hospital, Newcastle | N/A   | N/A                 | If Necessary the laboratory will send these samples for confirmation.   |
| <b>Hepatitis C PCR</b>   | Freeman road Hospital, Newcastle | EDTA (Purple top) or Clotted blood (Gold top)                                       | 5ml adult, 1ml paed |   |
| <b>Hepatitis D PCR</b>   | VRD, Colindale                   | EDTA (Purple top)   | 300ul               | <b>URGENT – Please telephone the laboratory as soon as this sample has been collected. Ensure the collection time is on the request form and specimen.</b>  |
| <b>Hepatitis D Serology IGG</b>  | VRD, Colindale                   | clotted blood (gold top) or EDTA (purple top)                                       | 200ul               |   |
| <b>Hepatitis E PCR</b>   | VRD, Colindale                   | EDTA (Purple top) or Clotted blood (Gold top)                                       | 300ul               | <p>Only on medical staff request and IGM positive patients.</p> <p><b>URGENT- Please telephone the laboratory as soon as this sample have been collected. Ensure the collection time is on the request form and the specimen.</b></p>   |
| <b>Hepatitis E Serology IGG and IGM</b>  | VRD, Colindale                   | clotted blood (gold top)  | 100ul               |   |
| <b>Herpes PCR</b>  | Freeman road Hospital, Newcastle | EDTA (Purple top) or CSF  | 5ml adult, 1ml paed |   |

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| Test   | Referral laboratory                            | Sample Type  | Sample Volumes      | Comments   |
|--|--|--|---------------------|--|
| <b>Histoplasma serology</b>  | PHE, South West                                | Clotted blood (Gold top)   | 5ml adult, 1ml paed |  |
| <b>HIV confirmation Serology</b>   | Freeman road Hospital, Newcastle               | N/A  | N/A                 | If necessary the laboratory will send these samples form confirmation.                                   |
| <b>HIV Viral Load (PCR)</b>  | Freeman road Hospital, Newcastle               | EDTA (Purple top)  | 5ml adult, 1ml paed |  |
| <b>HIV-1 Viral Resistance (Protease and Reverse Transcriptase gene analysis)</b> | Lab 21, Cambridge                              | EDTA (Purple top)  | 5ml adult, 1ml paed | Request form for Referral lab to be completed by Service user, and sent to Microbiology with the sample. |
| <b>HLA-B 5701 (genetic markers for pharmacogenic)</b>                            | Lab 21, Cambridge                              | EDTA (Purple top)  | 5ml adult, 1ml paed | Request form for Referral lab to be completed by Service user, and sent to Microbiology with the sample. |
| <b>Human herpes virus 8 - (HHV 8) PCR</b>  | VRD, Colindale                                 | EDTA (Purple top) un-separated, other samples by arrangement of lab. | 5ml adult, 1ml paed |  |
| <b>Human Papilloma virus (HPV) PCR</b>   | Molecular microbiology, Manchester             | Cervical smear, swabs, biopsies, paraffin wax sections               | 600ul               |  |
| <b>Human T-lymphotropic virus (HTLV I and II) Antibody</b>                       | VRD, Colindale                                 | Clotted blood (Gold top)   | 300ul               |  |
| <b>IgG Insulin antibodies (Immunology)</b>                                       | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)   | 5ml adult, 1ml paed |  |
| <b>Islet Cell antibody (Immunology)</b>  | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)   | 5ml adult, 1ml paed |  |
| <b>Isoniazid assay</b>   | Cardiff Toxicology Laboratory's                | EDTA Plasma / Serum - no gel   | 2ml                 | Details of current medication MUST be given  |
| <b>Legionella species sero typing</b>  | BRD, Colindale                                 | N/A  | N/A                 | If necessary the laboratory would send these isolates for further testing.                               |
| <b>Legionella urine Ag positive</b>  | BRD, Colindale                                 | N/A  | N/A                 | If necessary the laboratory would send these samples for further testing.                                |



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| Test   | Referral laboratory                                 | Sample Type              | Sample Volumes      | Comments   |
|--|---|--------------------------|---------------------|--|
| <b>Leishmania Serology</b>   | Hospital for tropical diseases, London              | Clotted blood (Gold top) | 5ml adult, 1ml paed |  |
| <b>Leptospiral antibodies (Serology)</b>                             | Rare and Imported Pathogens laboratory, Porton down | Clotted blood (Gold top) | 5ml adult, 1ml paed |  |
| <b>LGV (Lymphogranuloma, venereum) chlamydia PCR</b>                 | VRD, Colindale                                      | PCR swab                 | N/A                 | Must be a rectal swab and patient must be Chlamydia positive               |
| <b>Listeria PCR</b>  | BRD, Colindale                                      | N/A                      | N/A                 | If necessary the laboratory would send these isolated for further testing. |
| <b>Liver auto antibody screen (Immunology)</b>                       | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top) | 5ml adult, 1ml paed |  |
| <b>Liver specific antigens (Liver Cytosol antibody) (Immunology)</b> | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top) | 5ml adult, 1ml paed |  |
| <b>Mannose binding lectin (Immunology)</b>                           | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top) | 5ml adult, 1ml paed |  |
| <b>Measles IgM</b>   | Freeman road Hospital, Newcastle                    | Clotted blood (Gold top) | 5ml adult, 1ml paed |  |
| <b>MOG (Myelin Oligodendrocyte Glycoprotein Abs) (Immunology)</b>    | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top) | 5ml adult, 1ml paed |  |
| <b>MRSA Whole Genome sequencing</b>                                  | BRD Colindale                                       | N/A                      | N/A                 | Part of enhanced surveillance for Bacteraemia cases in England.            |
| <b>Mumps IgM and IgG antibody serology</b>                           | Freeman road Hospital, Newcastle                    | Clotted blood (Gold top) | 5ml adult, 1ml paed |  |
| <b>Mumps PCR</b>   | Freeman road Hospital, Newcastle                    | EDTA (Purple top)        | 5ml adult, 1ml paed |  |

## NHS GENERAL

| Test  | Referral laboratory                            | Sample Type                                  | Sample Volumes            | Comments   |
|---|--|--|---------------------------|--|
| <b>Mycoplasma total antibody and IGM</b>                  | Freeman road Hospital, Newcastle               | Clotted blood (Gold top)                     | 5ml adult, 1ml paed       |  |
| <b>Myositis antibodies (R052)</b>                         | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)                     | 5ml adult, 1ml paed       |  |
| <b>N. Gonorrhoea susceptibility testing</b>               | BRD, Colindale                                 | N/A  | N/A                       | If necessary the laboratory would send these isolates for further testing. |
| <b>N. Meningitidis PCR</b>                                | Meningococcal reference unit, Manchester       | EDTA blood (Purple top), CSF, pleural fluid. | Blood 5ml adult, 1ml paed |  |
| <b>N. meningitidis strain characterisation Serotyping</b> | Meningococcal reference unit, Manchester       | N/A  | N/A                       | If necessary the laboratory would send these isolates for further testing. |
| <b>Neisseria Meningitidis antibodies serology</b>         | Meningococcal reference unit, Manchester       | Clotted blood (Gold top)                     | Blood 5ml adult, 1ml paed | We do not send for MEN C antibodies.                                       |
| <b>Neuronal Nuclear antibody screen (Immunology)</b>      | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)                     | 5ml adult, 1ml paed       |  |
| <b>NMDA – receptor antibodies (Immunology)</b>            | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)                     | 5ml adult, 1ml paed       |  |

## NHS GENERAL

| Test  | Referral laboratory  | Sample Type   | Sample Volumes            | Comments      |
|---|--|---|---------------------------|---------------|
| <b>Orf virus (sore mouth infection) Electron microscopy</b>                     | VRD, Colindale   | Biopsy specimens are preferable for suspected orf. Suitable alternative specimens are either smears of vesicle fluid dried onto a microscope slide, or a piece of crust or biopsy of the lesion placed in a dry sterile container. Please note swabs of skin lesions in liquid media are not recommended for electron microscopy. | N/A                       |               |
| <b>Parvovirus IGM confirmation</b>  | VRD, Colindale   | Clotted blood (Gold top) or EDTA (Purple top)   | 200ul                     |               |
| <b>Parvovirus PCR</b>   | VRD, Colindale   | Clotted blood (Gold top) or EDTA (Purple top)   | 150ul                     | <b>URGENT</b> |
| <b>PCP PCR</b>  | Great Ormond street hospital   | BAL   | n/a                       |               |
| <b>Pemphigus / Pemphigoid Epidermal antibody (Immunology)</b>                   | Immunology, Queen Elizabeth hospital Gateshead                             | Clotted blood (Gold top)  | 5ml adult, 1ml paed       |               |
| <b>Pituitary Gland antibody (Immunology)</b>                                    | Immunology, Queen Elizabeth hospital Gateshead                             | Clotted blood (Gold top)  | 5ml adult, 1ml paed       |               |
| <b>Pneumococcal PCR</b>   | If necessary the laboratory would send these isolates for further testing. | EDTA blood (Purple top), CSF, pleural fluid   | Blood 5ml adult, 1ml paed |               |
| <b>Purkinje Cell antibody Part of the neuronal antibody screen (Immunology)</b> | Immunology, Queen Elizabeth hospital Gateshead                             | Clotted blood (Gold top)  | 5ml adult, 1ml paed       |               |

## NHS GENERAL

| Test   | Referral laboratory                                 | Sample Type                   | Sample Volumes                 | Comments   |
|--|---|-------------------------------|--------------------------------|--|
| <b>Q Fever/Coxiella (Serology)</b>   | Rare and Imported Pathogens laboratory, Porton down | Clotted blood (Gold top)      | 5ml adult, 1ml paed            |  |
| <b>Quantiferon gold (Interferon gamma release assay)</b>                               | Freeman road Hospital, Newcastle                    | Blood packs collect from Lab. | Exactly 1m of blood each tube. | Specific blood collection packs to be received at lab by 17:00 on the same day. Mon- Fri only        |
| <b>Rabies Serology</b>   | Animal and plant health agency (APHA)               | Clotted blood (Gold top)      | 2ML                            | <b>Referred ONLY if patient works with bats.</b>   |
| <b>RAST (Immunology)</b>   | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top)      | 5ml adult, 1ml paed            | Must specify which allergens on the request form.  |
| <b>Rickettsia Serology</b>   | Rare and Imported Pathogens laboratory, Porton down | Clotted blood (Gold top)      | 5ml adult, 1ml paed            | Information on antibiotic treatment should accompany requests for rickettsial and bacterial studies. |
| <b>Rifampicin assay</b>  | Antimicrobial reference Laboratory, Bristol         | Clotted blood (Gold top)      | 5ML                            |  |
| <b>Rubella IgM serology</b>  | Freeman road Hospital, Newcastle                    | Clotted blood (Gold top)      | 5ml adult, 1ml paed            |  |
| <b>Salmonella species serotyping and phage typing</b>                                  | BRD, Colindale                                      | N/A                           | N/A                            | If necessary the laboratory would send these isolated for further testing.                           |
| <b>Shigella species identification by molecular typing via whole genome sequencing</b> | BRD, Colindale                                      | N/A                           | N/A                            | If necessary the laboratory would send these isolated for further testing.                           |
| <b>Soluble Liver antigen antibody (Immunology)</b>                                     | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top)      | 5ml adult, 1ml paed            |  |
| <b>Staph aureus virulence gene detection (including PVL)</b>                           | BRD, Colindale                                      | N/A.                          | N/A                            | If necessary the laboratory would send these isolates for testing.                                   |

## NHS GENERAL

| Test   | Referral laboratory                            | Sample Type   | Sample Volumes      | Comments  |
|--|--|---|---------------------|---|
| <b>Streptococcus Pneumococcal serotype specific antibody</b> | BRD, Colindale                                 | N/A   | N/A                 | If necessary the laboratory would send these isolates for further testing.                      |
| <b>Striated Muscle antibody (Immunology)</b>                 | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)  | 5ml adult, 1ml paed |   |
| <b>Strongyloides serology</b>                                | Hospital of tropical diseases, London          | Clotted blood (Gold top)  | 5ml adult, 1ml paed |   |
| <b>Syphilis confirmation Serology (Adult)</b>                | Freeman road Hospital, Newcastle               | N/A   | N/A                 | If necessary the laboratory will send these samples form confirmation.                          |
| <b>Syphilis Serology (Paediatric)</b>                        | Freeman road Hospital, Newcastle               | N/A   | N/A                 | If necessary the laboratory will send these samples form confirmation.                          |
| <b>TB Culture</b>  | Freeman road Hospital, Newcastle               | BAL, bone marrow, CSF, fluids, biopsy, sputum, gastric lavage fluid, urine<br><br>Lithium Heparin blood (Green) | N/A                 |   |
| <b>TB PCR</b>  | Great Ormond street hospital                   | Any sample from a normally sterile site. Isolates on slopes   |                     |   |
| <b>Teicoplanin Assay</b>                                     | Antimicrobial reference Laboratory, Bristol    | Clotted blood (Gold top)  | 5ML                 |   |
| <b>Tetanus antibodies (Immunology)</b>                       | Immunology, Queen Elizabeth hospital Gateshead | Clotted blood (Gold top)  | 5ml adult, 1ml paed | Only if job or hobby puts patient at risk or if specimen from child.                            |
| <b>Tobramycin assay</b>                                      | Freeman road Hospital, Newcastle               | Clotted blood (Gold top)  | 5ml adult, 1ml paed |   |
| <b>Toxocara antibodies serology</b>                          | Hospital for tropical diseases, London         | Clotted blood (Gold top)  | 5ml adult, 1ml paed |   |
| <b>Toxoplasma avidity</b>                                    | PHW, Swansea                                   | Clotted blood (Gold top)  | 5ml adult, 1ml paed | <b>Request form must have all in house test results, date of onset and duration of illness.</b> |

## NHS GENERAL

| Test   | Referral laboratory                                 | Sample Type  | Sample Volumes      | Comments  |
|--|---|--|---------------------|---|
| <b>Toxoplasma IgM</b>  | Freeman road hospital, Newcastle                    | Clotted blood (Gold top)   | 5ml adult, 1ml paed |   |
| <b>Treponemal/H.ducreyi / Herpes PCR (Triplex test)</b>                  | VRD, Colindale                                      | Fresh dry swab or swab in viral transport medium is optimal taken from genital or oral ulcer | N/A                 |   |
| <b>Vancomycin Assay</b>  | Freeman road Hospital, Newcastle                    | Clotted blood (Gold top)   | 5ml adult, 1ml paed |   |
| <b>Varicella IgG serology</b>  | Freeman road Hospital, Newcastle                    | N/A  | N/A                 | If necessary the laboratory will send samples for confirmation.   |
| <b>Varicella IgM serology</b>  | Freeman road Hospital, Newcastle                    | Clotted blood (Gold top)   | 5ml adult, 1ml paed |   |
| <b>Vibrio species confirmation and serotyping</b>                        | BRD, Colindale                                      | N/A  | N/A                 | If necessary the laboratory would send these isolated for further testing.  |
| <b>Viral PCR (CSF) (VZ, HSV I and II, Enterovirus and Paraechovirus)</b> | Freeman road hospital, Newcastle                    | CSF  | n/a                 |   |
| <b>Voltage gated calcium antibodies (Immunology)</b>                     | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top)   | 5ml adult, 1ml paed | Clotted blood (Gold top)  |
| <b>Voltage Gated Potassium antibodies (Immunology)</b>                   | Immunology, Queen Elizabeth hospital Gateshead      | Clotted blood (Gold top)   | 5ml adult, 1ml paed |   |
| <b>VZ PCR</b>  | Freeman Road Hospital, Newcastle                    | Viral Swab   | n/a                 |   |
| <b>Zika PCR</b>  | Rare and Imported Pathogens laboratory, Porton down | EDTA (purple top)<br><br>Pregnant women EDTA and Urine sample                                | 5ml                 | For symptomatic pregnant women or men whose partners are pregnant, urine (500 µl minimum volume) should be submitted for PCR testing in addition to EDTA plasma.<br><br>Relevant travel information to be included. |

## NHS GENERAL

| Test                               | Referral laboratory                                 | Sample Type              | Sample Volumes | Comments                                   |
|------------------------------------|---|--------------------------|----------------|--|
| <b>Zika serology (IGM and IGG)</b> | Rare and Imported Pathogens laboratory, Porton down | clotted blood (Gold top) | 5ml            | Relevant travel information to be included |

## NHS GENERAL

### Referral laboratory address and contact details

| Referral Laboratory contact details  | Tests Microbiology Refer to this Laboratory  | UKAS/CPA number  |
|--|--|------------------|
| <p><b>Animal and plant health agency (APHA)</b></p> <p>APHA Weybridge<br/>           Laboratory Services Department<br/>           Woodham Lane<br/>           New Haw<br/>           Addlestone<br/>           Surrey<br/>           KT15 3NB</p> <p>Tel: 01932 341111<br/>           Fax: 01932 347046</p> <p>DX: 6730602<br/>           WEYBRIDGE 90 KT</p> | <ul style="list-style-type: none"> <li>• Rabies Serology</li> </ul>                                | <p>UKAS 1769</p> |
| <p><b>Antimicrobial Reference Laboratory</b></p> <p>Department of Medical Microbiology<br/>           North Bristol NHS Trust<br/>           Southmead Hospital<br/>           Bristol,<br/>           BS10 5NB</p> <p>Tel: 0117 414 6220</p> <p>DX: 6121302<br/>           WESTBURY TRYM 90 BS</p>  | <ul style="list-style-type: none"> <li>• Teicoplanin assay</li> <li>• Rifampicin assay.</li> </ul> | <p>CPA 0038</p>  |



## NHS GENERAL

| Referral Laboratory contact details   | Tests Microbiology Refer to this Laboratory   | UKAS/CPA number |
|---|---|-----------------|
| <p><b>Bacteriology Reference Department (BRD)</b><br/>61 Colindale Avenue, London<br/>NW9 5HT</p> <p>Tel: 020 8327 7887</p> <p>PHE Colindale<br/>Bacteriology<br/>DX 6530002<br/>Colindale NW</p>   | <p><b>Antimicrobial resistance and healthcare associated infections reference unit (AMRHAI)</b></p> <ul style="list-style-type: none"> <li>• Staph aureus virulence gene detection (including pvl) (H2)</li> <li>• Enterobacteriaceae further sensitivities if required (H2)</li> <li>• MRSA Whole Genome Sequencing (H2)</li> <li>• N. Gonorrhoea susceptibility testing (B2)</li> <li>•</li> </ul> <p><b>Gastrointestinal bacteria reference unit (GBRU)</b></p> <ul style="list-style-type: none"> <li>• E.coli 0157 confirmation, phage typing, vero cyto toxin gene detection (L4)</li> <li>• H.pylori isolates (L4)</li> <li>• H.pylori cultures (L5)</li> <li>• Listeria PCR (L4)</li> <li>• Salmonella species serotyping and phage typing (L4)</li> <li>• Shigella species identification by molecular typing via whole genome sequencing (L4)</li> <li>• Vibrio species confirmation and serotyping (L4)</li> </ul> <p><b>The Respiratory and Vaccine Preventable Bacteria Reference Unit (RVPBRU)</b></p> <ul style="list-style-type: none"> <li>• C. diphtheriae biotyping and toxogenity (R3)</li> <li>• Coryne Diphtheria serology (R3)</li> <li>• Group A b-haemolytic streptococci (Str. Pyogenes sero typing) R1)</li> <li>• H.influenza serotyping (R3)</li> <li>• Legionella species sero typing (R1)</li> <li>• Legionella urine Ag positive (R1)</li> <li>• Streptococcus Pneumococcal serotype specific antibody (R3)</li> <li>• Bordetella confirmation and serotyping (R3)</li> </ul> | CPA 1834        |
| <p><b>Brucella Special Diagnostic Unit</b></p> <p>Liverpool Clinical Laboratories<br/>Virology Department<br/>8th floor Duncan Building<br/>Royal Liverpool &amp; Broadgreen<br/>Hospital<br/>Prescott Street,<br/>Liverpool<br/>L7 8XP</p> <p>Tel: 0151 706 4404</p> <p>DX: 6967103<br/>LIVERPOOL94L</p> | <ul style="list-style-type: none"> <li>• Brucella antibodies</li> </ul>   | CPA 1864        |

## NHS GENERAL

| Referral Laboratory contact details   | Tests Microbiology Refer to this Laboratory  | UKAS/CPA number |
|---|--|-----------------|
| <p><b>Cardiff Toxicology Laboratories</b></p> <p>The Academic Centre<br/>University Hospital Llandough<br/>Penarth<br/>Vale of Glamorgan<br/>CF64 2XX</p> <p>Tel: 029 2071 6894<br/>Fax: 029 2035 0142</p> <p>DX: 6070403<br/>Penarth 90 CF</p>   | <ul style="list-style-type: none"> <li>• Ethambutol level</li> <li>• Isoniazid level</li> </ul>  | CPA 841         |
| <p><b>Clostridium difficile ribotyping service, Leeds,</b></p> <p>CDRN Reference Laboratory<br/>c/o Infection Control Laboratory<br/>Department of Microbiology, Old<br/>Medical School, Leeds General Infirmary,<br/>Leeds<br/>LS1 3EX</p> <p>Tel: 0113 392 6775</p> <p>DX 6281505<br/>LEEDS 91 LS</p> | <ul style="list-style-type: none"> <li>• Clostridium difficile, Ribotyping</li> </ul>  | CPA 0061        |
| <p><b>Cryptosporidium Reference Unit</b></p> <p>Public Health Wales Microbiology ABM<br/>Singleton Hospital<br/>Sgeti<br/>Swansea<br/>SA2 8QA</p> <p>Tel: 01792 285341</p> <p>DX 6070300<br/>Swansea 90 SA</p>  | <ul style="list-style-type: none"> <li>• Cryptosporidium Typing</li> </ul>   | CPA 2913        |
| <p><b>Cumberland Infirmary</b></p> <p>Microbiology<br/>Cumberland Infirmary<br/>Newton Road<br/>Carlisle<br/>CA2 7HY<br/>Microbiology Tel: (01228) 814642<br/>Virology/Immunology<br/>Tel: (01228) 814649</p> <p>DX: 6940100<br/>CARLISLE 90 CA</p>   | <ul style="list-style-type: none"> <li>• Aspergillus precipitins Serology</li> <li>• Avian precipitins Serology</li> <li>• Farmer lung (Serology)</li> </ul> | UKAS 8874       |

## NHS GENERAL

| Referral Laboratory contact details   | Tests Microbiology Refer to this Laboratory  | UKAS/CPA number |
|---|--|-----------------|
| <p><b>Department of Clinical Parasitology</b><br/>           Hospital for Tropical Diseases<br/>           Third Floor Mortimer Market Centre<br/>           Mortimer Market<br/>           London, WC1E 6JB</p> <p>Tel: 02034475418<br/>           DX: 6640701<br/>           Exchange: TOTTENHAM CT RD 91 WC</p>  | <ul style="list-style-type: none"> <li>• Echinococcus serology/Hydatid Serology</li> <li>• Entamoeba histolytica serology</li> <li>• Leishmania Serology</li> <li>• Toxocara antibodies serology</li> <li>• Amoebic IFAT serology</li> <li>• Bilharzia (Schistosomiasis) Serology</li> <li>• Strongyloides Serology</li> </ul> | CPA 2204        |
| <p><b>Great Ormond Street Hospital</b><br/>           Microbiology and Virology Department<br/>           Level 4<br/>           Camelia Botnar Laboratories<br/>           Great Ormond Street Hospital<br/>           Great Ormond Street<br/>           London<br/>           WC1N 3JH</p> <p>Tel : 0207 829 8661</p> <p>DX 6640203<br/>           Bloomsbury 91WC</p> | <ul style="list-style-type: none"> <li>• TB PCR</li> <li>• 16s PCR</li> <li>• PCP PCR</li> </ul>   | UKAS 8675       |

## NHS GENERAL

| Referral Laboratory contact details   | Tests Microbiology Refer to this Laboratory   | UKAS/CPA number |
|---|---|-----------------|
| <p><b>Immunology, Gateshead.</b></p> <p>Clinical immunology<br/>Queen Elizabeth Hospital<br/>Queen Elizabeth Avenue<br/>Sheriff Hill<br/>Gateshead<br/>Tyne and Wear<br/>NE9 6SX</p> <p>Tel: 0191 4453298</p> <p>DX 6360701<br/>LOWFELL 90 NE</p> | <ul style="list-style-type: none"> <li>• Immunology Test</li> <li>• Acetyl Choline Receptor antibody</li> <li>• Anti- GAD antibodies</li> <li>• Anti-Adrenal antibodies</li> <li>• Anti-Cardiac antibodies</li> <li>• Anti-Gastric parietal (GPC)</li> <li>• Anti-Histone antibody</li> <li>• Anti-MUSK antibodies</li> <li>• Anti-Neurtophil Cytoplasmic antibodies (ANCA)</li> <li>• Anti-nuclear antibody</li> <li>• Anti-Ovarian antibodies</li> <li>• AP100</li> <li>• Aquaporin 4 antibodies</li> <li>• CH50 (CH100)</li> <li>• Coeliac – Tissue Transglutminase (TTG)</li> <li>• Cyclic citrullinated peptide (CCP)</li> <li>• Ds-DNA (DNA binding)</li> <li>• Extractable nuclear antigens</li> <li>• Ganglioside antibody (GM1 and GQQ1B)</li> <li>• Glomerular basement membrane antibody (GBM)</li> <li>• IgG Insulin antibodies</li> <li>• Islet Cell antibody</li> <li>• Liver auto antibody screen</li> <li>• Liver specific antigens<br/>(Liver Cytosol antibody)</li> <li>• Mannose binding lectin</li> <li>• MOG (Myelin Oligodendrocyte Glycoprotein Abs)</li> <li>• Myositis antibodies (R052)</li> <li>• Neuronal antibody screen</li> <li>• NMDA receptor antibodies</li> <li>• Pemphigus / Pemphigoid (Epidermal antibodies)</li> <li>• Pituitary Gland antibody</li> <li>• Purkinje Cell antibody (Part of neuronal nuclear antibody)</li> <li>• RAST</li> <li>• Soluble Liver antigen antibody</li> <li>• Striated Muscle antibody</li> <li>• Tetanus antibodies</li> <li>• Voltage Gated Calcium antibodies</li> <li>• Voltage Gated Potassium antibodies</li> </ul> | CPA 310         |
| <p><b>Lab 21 Ltd.</b></p> <p>Park House,<br/>Winship Road,<br/>Milton,<br/>Cambridge.<br/>CB24 6BQ</p> <p>Tel: 01223 395 450<br/>Fax: 0 1223 395 451</p> <p>DX:6055300<br/>CAMBRIDGE 94 CB</p>  | <ul style="list-style-type: none"> <li>• HLA-B 5701</li> <li>• HIV 1 – Viral resistance</li> </ul>  | CPA 2830        |

## NHS GENERAL

| Referral Laboratory contact details  | Tests Microbiology Refer to this Laboratory  | UKAS/CPA number  |
|--|--|--|
| <p><b>Meningococcal Reference Unit, PHE, Manchester</b></p> <p><b>Meningococcal Reference unit,</b><br/>Manchester Medical Microbiology Partnership,<br/>Clinical Sciences Building 2,<br/>Manchester Royal Infirmary,<br/>Oxford Road,<br/>Manchester,<br/>M13 9WL</p> <p>Tel: 0161 276 6757</p> <p>Meningococcal Reference Unit<br/>DX 6962410<br/>Manchester 90 M</p> | <ul style="list-style-type: none"> <li>• N. Meningitidis PCR</li> <li>• N. meningitidis strain characterisation Serotyping</li> <li>• Neisseria Meningitidis antibodies serology</li> <li>• Pneumococcal PCR</li> </ul>  | <p>CPA 635</p>   |
| <p><b>Microbiology, Freeman Road Hospital</b></p> <p>Microbiology<br/>Freeman Hospital<br/>Freeman Road<br/>Newcastle upon Tyne<br/>NE7 7DN</p> <p>Tel: 0191 223 1019</p> <p>DX 6360905<br/>NEWCASTLE 93 NE</p>  | <p><b>Microbiology</b></p> <ul style="list-style-type: none"> <li>• Aspergillus galactomannan Serology</li> <li>• Borellia (Lymes) serology</li> <li>• CMV avidity (Serology)</li> <li>• Cryptococcal antigen (Serology)</li> <li>• Hepatitis B confirmation Serology</li> <li>• Hepatitis B core/markers serology</li> <li>• Hepatitis C confirmation Serology IGG</li> <li>• HIV confirmation Serology</li> <li>• Measles IgM</li> <li>• Mumps IgM and IGM antibody serology</li> <li>• Mycoplasma Total antibody and IGM</li> <li>• Rubella IgM serology</li> <li>• Syphilis confirmation Serology</li> <li>• Tobramycin assay</li> <li>• Toxoplasma IgM</li> <li>• Vancomycin Assay</li> <li>• Varicella IgG serology</li> <li>• Varicella IgM serology</li> </ul> <p><b>Molecular laboratory</b></p> <ul style="list-style-type: none"> <li>• Bordetella pertussis PCR</li> <li>• CMV PCR</li> <li>• Epstein-Barr Virus PCR</li> <li>• Hepatitis B viral load (PCR)</li> <li>• Hepatitis C PCR</li> <li>• Herpes PCR</li> <li>• HIV Viral Load (PCR)</li> <li>• Mumps PCR</li> <li>• Viral PCR (CSF) (VZ, HSV I and II, Enterovirus and Paraechovirus)</li> <li>• VZ PCR (Swab)</li> </ul> <p><b>Mycobacteria laboratory</b></p> <ul style="list-style-type: none"> <li>• TB Culture and AFB staining</li> <li>• QuantiFeron gold (Interferon gamma release assay)</li> </ul> | <p>UKAS 8368 (this is for Microbiology)</p> <p><b>Currently the molecular laboratory and Mycobacteria laboratory are NOT accredited.</b></p> |

## NHS GENERAL

| Referral Laboratory contact details   | Tests Microbiology Refer to this Laboratory  | UKAS/CPA number       |
|---|--|-----------------------|
| <p><b>Molecular microbiology, Manchester</b></p> <p>Manchester Medical Microbiology Partnership<br/>PO Box 209<br/>Clinical Sciences Centre<br/>Manchester Royal Infirmary<br/>Oxford Road<br/>Manchester<br/>M13 9WL</p> <p>Tel: 0161-276-8788/8854</p> <p>DX6962410<br/>Manchester 90 M</p> | <ul style="list-style-type: none"> <li>Human Papilloma virus (HPV) PCR</li> </ul>  | CPA 635               |
| <p><b>Mycology Reference unit</b></p> <p>PHE South West<br/>Myrtle road<br/>Kingsdown<br/>Bristol<br/>BS2 8EL</p> <p>Tel: 01173425028</p> <p>DX:6120200<br/>BRISTOL 90 BS</p>   | <ul style="list-style-type: none"> <li>Coccidioides Serology</li> <li>Histoplasma Serology</li> <li>Candida Mannan Serology</li> </ul> | 8043                  |
| <p><b>Mycology reference unit, Manchester.</b></p> <p><b>Mycology Reference Unit</b><br/>2nd Floor Laboratory, Education and Research Centre,<br/>Wythenshawe Hospital,<br/>Southmoor Road,<br/>Manchester,<br/>M23 9LT.</p> <p>Tel: 0161 291 2124</p> <p>DX 6968700<br/>NORTHENDEN 90 M</p>  | <ul style="list-style-type: none"> <li>Antifungal Levels (Itraconazole and Voriconazole)</li> </ul>                                    | CPA 635               |
| <p><b>National Creutzfeldt-Jakob Disease Surveillance Unit</b></p> <p>The National Creutzfeldt-Jakob Disease Research &amp; Surveillance Unit<br/>Western General Hospital<br/>Crewe Road<br/>Edinburgh EH4 2XU</p> <p>(0131 5372094).</p>  | <ul style="list-style-type: none"> <li>CJD (CSF)</li> </ul>  | <b>NOT Accredited</b> |
| <p><b>PHE Public Health Laboratory, Birmingham</b></p> <p>Heart of England NHS Foundation Trust,<br/>Bordesley Green East Birmingham,<br/>B9 5SS</p> <p>Tel: 0121 424 3111.</p> <p>DX: DX 6780100<br/>BIRMINGHAM B</p>  | <ul style="list-style-type: none"> <li>Hepatitis B viral load (Occupational health specimens only).</li> </ul>                         | UKAS 8213             |

## NHS GENERAL

| Referral Laboratory contact details   | Tests Microbiology Refer to this Laboratory   | UKAS/CPA number |
|---|---|-----------------|
| <p><b>Rare and Imported Pathogens laboratory, Porton Down</b></p> <p>PHE Microbiology Services<br/>Porton Down,<br/>Salisbury<br/>Wiltshire<br/>SP4 0JG</p> <p>Tel: 01980 612348 (9am - 5pm)<br/>Tel:01980 612100 (Oncall)</p> <p>DX 6930400<br/>Salisbury 92 SP</p>  | <ul style="list-style-type: none"> <li>• Chikungunya Serology (P1)</li> <li>• Dengue fever Serology (P1)</li> <li>• Ebola (and other VHF) PCR (P1)</li> <li>• Leptospiral antibodies (Serology) (P3)</li> <li>• Q Fever/Coxiella (Serology) (P1)</li> <li>• Rickettsia Serology (P1)</li> <li>• Zika serology(P1)</li> <li>• Zika PCR (P1)</li> </ul> | CPA 1612        |
| <p><b>South West PHE</b></p> <p><b>Public health laboratory Bristol</b><br/><b>Severn Pathology</b><br/><b>Southmead Hospital</b><br/><b>Southmead Road</b><br/><b>Westbury-on-Trym</b><br/><b>Bristol</b><br/><b>BS10 5NB</b></p> <p><b>Telephone 0117 414 6222</b></p> <p>DX: 6121302<br/>WESTBURY TRYM 90 BS</p> | <ul style="list-style-type: none"> <li>• BK Virus PCR</li> <li>• Adenovirus PCR</li> <li>• Chlamydia psittaci serology</li> <li>• Chlamydia pneumoniae serology</li> </ul>  | 8043            |
| <p><b>St Helier Hospital</b></p> <p>Microbiology<br/>Pathology Reception<br/>First Floor<br/>D block<br/>St Helier Hospital<br/>Wrythe Lane<br/>Carshalton<br/>Surrey<br/>SM5 1AA</p> <p>TEL: 02082962468</p> <p>DX: 6600101<br/>CARSHALTON</p>   | <ul style="list-style-type: none"> <li>• Coxsackie Serology</li> </ul>  | CPA 1225        |
| <p><b>Toxoplasma reference laboratory</b></p> <p>Public Health Wales Microbiology ABM<br/>Singleton Hospital<br/>Sgeti<br/>Swansea<br/>SA2 8QA</p> <p>Tel: 01792 285341</p> <p>DX 6070300<br/>Swansea 90 SA</p>   | <ul style="list-style-type: none"> <li>• Toxoplasma avidity</li> </ul>  | UKAS 9510       |

## NHS GENERAL

| Referral Laboratory contact details   | Tests Microbiology Refer to this Laboratory  | UKAS/CPA number |
|---|--|-----------------|
| <p><b>Virus Reference Department (VRD)</b><br/>           61 Colindale Avenue<br/>           London NW9 5HT</p> <p>Tel: 020 8327 6017</p> <p>PHE Colindale<br/>           Viral Reference<br/>           DX 6530006<br/>           Colindale NW</p> | <p><b>Blood borne viruses unit (BBVU) Colindale PHE</b></p> <ul style="list-style-type: none"> <li>• Hepatitis D PCR (S1)</li> <li>• Hepatitis E PCR (S1)</li> </ul> <p><b>Human papillomavirus and hepatitis C virus reference unit (HPHCU)</b></p> <ul style="list-style-type: none"> <li>• Orf virus (sore mouth infection) Electron microscopy (E1)</li> </ul> <p><b>Immunisation and diagnosis unit (IDU)</b></p> <ul style="list-style-type: none"> <li>• Parvovirus PCR (E9)</li> </ul> <p><b>Clinical Services unit (CSU)</b></p> <ul style="list-style-type: none"> <li>• LGV ( lymphogranuloma venereum) chlamydia PCR (B7)</li> <li>• Treponemal PCR (B3)</li> <li>• Hepatitis D Serology IGG (S1)</li> <li>• Hepatitis E Serology IGG and IGM (S1)</li> <li>• Parvovirus IGM confirmation (E9)</li> <li>• Human T-lymphotropic virus (HTLV I and II) Antibody (S5)</li> <li>• Human herpes virus 8 - (HHV 8) PCR (S4)</li> </ul> | <p>CPA 2904</p> |



## REPORTING OF RESULTS

### Urgent results

Urgent test results, such as Microscopy on a CSF sample, will be telephoned immediately after processing to the requestor and an interim report sent out.

### Written reports

Hard copies reports are printed and dispatched each day to destinations that still require or receive hard copies.

### Electronic reports

Authorised reports are reported through ICE every 5 minutes, and available for users to view.

Authorised reports reported to MESH every 15 minutes. Each GP surgery has their own schedule as to how often they receive results from MESH, and therefore it may take a period of time for these results to appear on the third party GP lab link system. It is therefore recommended to check ICE for patient results as the system is configured to update at more regular intervals.

### Referred tests reports

Reports from referral laboratories will be copied and transcribed onto the LIMS system and will include all essential information supplied by the referral laboratory including test result, comments and name of the laboratory performing the test. Checking procedures are in place to ensure accuracy of transcription. The report will then be sent to the requestor electronically, a written report will be made available if required.

### Interim reports

Interim reports may be issued under the following circumstances:

1. Paediatric blood cultures 48 hours after receipt of sample.
2. Isolates of
  - Group A haemolytic Streptococci from both in-patients & GP patients.
  - Group B Haemolytic Streptococci from maternity wards.
  - *Neisseria meningitidis* from hospital patients with the exception of GUM.
  - Gram stains results for Positive Blood cultures.
  - Salmonella, Shigella, Campylobacter, *Ecoli* 0157, *C.difficile* Rotavirus/Adenovirus from in-patients.
3. Serology referred specimens

## NHS GENERAL

4. Fungal microscopy
5. Notifying user when a report is delayed which could compromise patient care.
6. All fluids that have had a cell count.
7. All fluids/tissues that have had a Gram stain or crystals.
8. Urgent Gram stain results.

Interim reports give the user initial information that may affect patient management, whilst a final report is still pending.

### **Final reports:**

Final reports are released for ALL samples when ALL tests and investigations are complete.

### **Additional reports**

- Outstanding or further technical work has been completed
- When requested by a user
- Results are received from a reference laboratory

### **Amended reports**

Amended reports will be issued when:

- Where an error has been discovered in the original report content.  
A comment will be added to these reports to notify the user that the report has been amended with details of the changes to the report.  
In all of these circumstances the laboratory will contact the user to inform them of the amended report and request that any hard copies of the original report with errors are discarded.  
Original electronic reports on ICE will be hidden from users by the laboratory.

\*please note that in the event of an amended report the laboratory is unable to remove or hide original reports with errors on GP lab links and Blithe Lillie GUM links.

### **Requests for duplicate previously authorised reports**

Duplicate authorised reports may be reissued when:

- Requested by the user
- Original report has not been received by the user
- Report needs to be sent to another location
- Audit purposes

### **Result enquiries**

Please check electronic GP lab links or ICE before contacting the laboratory for results.

If you are unable to locate the result you require and it is essential that you have the result to make a decision on the management of a patient, and then contact the laboratory as detailed in the contacts section of this Handbook.

### **Interpreting laboratory results**

Interpretation of results, and the reference range (where appropriate), is given as a comment on the report. If further advice is required please contact the laboratory.

Please refer to the test repertoire tables for individual test information, reference ranges and interpretation where applicable.

### **Uncertainty of results**

The laboratory must ensure that there are no adverse effects which may compromise the certainty of results obtained within Microbiology. There are various factors that can influence the precision of the microbiological results and require appropriate quality control procedures to minimise variation. Sources which may have an effect on the microbiology results include:

- Sampling and transportation – The method of sampling must be appropriate to the specimen type as stated in this user Handbook. The sample must be transported to the laboratory in a timely manner under suitable conditions. Any delay in the receipt of the sample arriving in the laboratory may affect the quality of the result.
- Storage time and temperature of sample - the sample must be suitably stored on receipt until the analysis is performed.
- Method of analysis – All methods used within the laboratory have been appropriately validated and verified. The laboratory subscribes to a number of External Quality Assurance schemes to ensure the proficiency of testing.
- Culture media and reagents –internal quality control is performed on all reagents used within the laboratory to ensure consistency of performance. There are performance sheets available for all culture media used in the laboratory. Daily temperature monitoring is undertaken to ensure that media and reagents are stored under the correct conditions and expiry dates are monitored on a weekly basis.
- Analysis of samples – internal quality control is performed on all reagents and kits prior to use within the laboratory.
- Equipment – all equipment including analysers are regularly maintained, calibrated where appropriate and quality controlled to ensure the accuracy and precision of the results.

## NHS GENERAL

- Personnel – all Biomedical Scientists undertake regular competency assessments appropriate to their grade to ensure they are proficient in the testing repertoire. They are all registered with the Health and Care Profession Council (HCPC) and undertake Continuous Professional Development (CPD) and can be audited by the HCPC at any time.

### Factors that may affect results

**Delay in transport:** May affect the viability of pathogens and allow overgrowth of normal flora or contaminating organisms. Morphological appearance of cells may also be affected.

**Excessive temperatures:** **Serology**  
Leave fresh blood at room temperature to clot. Do not freeze or overcool any whole blood samples.

**Bacteriology**  
Increases in temperature may increase bacterial activity leading to misleading high counts for pathogens (fluids) or overgrowth of normal or contaminating flora (swabs). Excessive high or low temperatures may kill the target organisms.

**Inappropriate specimen, site or transport medium:** If the specimen is taken from the wrong site (e.g. vaginal rather than cervical), or it is the wrong type of specimen (e.g. swab rather than pus), or it is placed into the wrong transport medium (e.g. viral transport rather than bacterial transport) then optimal recovery of the target organisms will not be possible.

**Clinical Information:** It is essential that appropriate clinical information is supplied. This will include the specific anatomical site, the nature of the sample, and history of foreign travel, occupation if relevant, and contact with animals. Failure to provide relevant information may mean that the most appropriate investigation is not performed.

**Haemolysis:** Severe haemolysis may compromise the results of serology assays.

Onset of illness: There are some serology tests where the onset of illness needs to be specified as this will affect results and interpretation of results.

## QUALITY ASSURANCE AND GOVERNANCE

### Quality Assurance:

The Microbiology laboratory aims to provide the highest quality service to our users, in the timeliest manner possible. The laboratory is registered with External Quality Assurance Schemes (EQA) for all tests offered in the test repertoire. Internal quality control is performed on all tests and kits.

### Accreditation status:

The Microbiology department is accredited by the United Kingdom Accreditation Service (UKAS) to ISO 15189 standards for the repertoire of tests unless otherwise indicated, the national accreditation body for the UK. This is a national standard for Medical laboratories to ensure the service meets the requirements necessary for quality and competence. For more information on the accreditation process please visit the UKAS website: <http://www.ukas.com/services/accreditation-services/medical-laboratory-accreditation-iso-15189/>.

Where feasible referred samples are sent to a UKAS accredited laboratory for diagnostic or confirmatory testing. Accreditation status of referral laboratories are regularly checked to ensure they remain compliant with the accreditation process as well as ensuring their EQA performance is satisfactory.

When the department or referral laboratory changes a test or procedures it may result in that test having to be taken out of scope until UKAS have undertaken an assessment of the test to allow it to be included in the scope. In the event that this does occur the laboratory will notify the user and any report issued will indicate that the current test is not currently in scope and therefore not accredited.

Information regarding the department's verification and validation process of the test repertoire is available on written request from the Pathology Quality Manager.

### Information Governance

The management of information security and confidentiality is essential and important to the service provided.

All data and information received, processed and produced within the laboratory is subject to the Data Protection Act 2002, Northumbria Healthcare NHS Trust confidentiality policies and Caldicott guidelines. The Trust has a Caldicott guardian and the Pathology department has a Clinical Governance lead.

## NHS GENERAL

The Trust has policies and procedures in place to cover all Information Governance areas including security of information and data protection, the use of email and internet, confidentiality and risk management.

All employees of the Trust and therefore individuals pertaining to the laboratory are subject to these strict policies concerning information governance and confidentiality. If an employee were to breach these policies in any form thereby disclosing personal information to unauthorised individuals, this would be gross misconduct and disciplinary action will be taken. The laboratory and individual staff members can be prosecuted.

### **Concerns and Complaints**

The trust has a Complaints Policy and Procedure for raising Concerns Policy (RMP14). Concerns and complaints can be raised verbally or in writing with the Pathology Operational Services Manager, departmental manager or via the Patients Services (PALS).

The department encourages users to raise any concerns to ensure the continued provision of the highest quality service possible. We endeavour to resolve any issues raised as quickly as possible.

### **Changes to our service**

In the event that there are changes to the test repertoire, reference ranges of tests or procedures, the department will inform Users via the Trust's communications bulletin and distribution of memos.

This Handbook is regularly review and updated to reflect any changes that may have occurred.

## **REFERENCES**

1. European committee on Standardisation. Medical laboratories – Requirements for quality and competence (ISO 15189:2012). British Standards Institution. 1-50. 2012.
2. Public Health England. (2016) National user manual template. UK standards for Microbiology investigations. U 1 Issue 1. <https://www.gov.uk/uk-standards-for-microbiology-investigations-smi-quality-and-consistency-in-clinical-laboratories>

## APPENDIX 1

### SEMINAL FLUID - Post vasectomy

#### Introduction

After their operation a patient may resume having sexual intercourse as soon as they feel able. Contraception must be used until the doctor who performed the vasectomy operation informs the patient that the post-vasectomy semen samples are clear. The referring doctor will be notified of the results. If there are still sperm in the specimens, the doctor will re-refer the patient, if, necessary, for further post-vasectomy checks until two consecutive specimens are free from sperm. These instructions are based on the British Andrology Society Guidelines 2002.

#### When to bring the first specimen

The specimen should be passed at least 16 weeks after the operation and after producing at least 20 ejaculates.

#### Delivery of your sample

A fresh sample is essential for this test and the sample must be received by the laboratory within four hours of it being passed. The sample must be brought to the Pathology Specimen Reception at North Tyneside General Hospital between 8.30am and 4:30pm, Monday to Friday.

#### Instructions for collecting the semen sample

- The patient should abstain from intercourse or masturbation for 2 to 7 days prior to providing the specimen
- The sample must be obtained by masturbation (manual stimulation) and ejaculated into a clean wide mouthed container made of plastic that has been toxicity tested. A condom or artificial lubrication must not be used for semen collection as it will kill the sperm.
- The complete specimen is needed for this examination, so if any of the specimens is spilt the laboratory must be notified as a repeat specimen is required.
- The specimen container must be labelled with the patients' full name, date of birth and the date and time the specimen was taken.

Please include name of surgeon on the request form.

## **Information for Patients – Vasectomy Semen Analysis**

### **Introduction**

At the time of your vasectomy, your doctor will have provided you with a copy of this form, a laboratory request form/bag and an empty container. This form provides you with guidance on how to ensure you provide a viable sample for testing.

### **Why do you need a post-vasectomy sample?**

Vasectomy is one of the safest and most effective means of birth control. It is not possible to consider a vasectomy as successful until a post-vasectomy sample of semen is analysed. Patients are advised to continue with an alternative form of contraception until they have had the results of the post vasectomy sample.

### **When should I provide my sample?**

For some weeks after your vasectomy, there is a risk that sperm can survive in the tubes leading from your testicles. If the sample is produced too early then there is a higher chance of sperm being detected on the test. It is advised that you should provide your specimen 16 weeks following your vasectomy. In addition to this timescale you should ensure that you have ejaculated at least 20 times between your surgery and the time of your specimen. It is important to note that you should have abstained from intercourse/masturbation within the previous 48 hours (but not more than 7 days) prior to taking your sample.

### **How do I collect the sample?**

- Ensure your full name, date of birth; hospital number and NHS number are marked clearly on the container.
- Warm the empty container to body temperature by putting it in a trouser or internal jacket pocket for around 10 minutes.
- Wash your hands and genitals but do not wash the container.
- The sample must be collected by masturbation only. You must ejaculate directly into the container. Do not use a condom/contraceptive sheath as many of these contain spermicide and are designed to kill sperm.
- All of the semen must be collected in the container. If any of the sample is spilled, the test could be inaccurate – live sperm could have been in the portion of sample which is not tested. This could lead to inaccurate results.
- Once complete please ensure the container lid is screwed on tightly.
- Write the date and time of the sample on the container label and put the container into the specimen bag which is attached to the laboratory form and seal the bag.
- Bring this completed form with you when delivering your sample to the laboratory.
- You must deliver the sample to the laboratory within one hour of the sample being taken.
- Sperm is sensitive to extremes in temperature so you must ensure that the sample is kept at body temperature. Place the container in a trouser or internal jacket pocket on your journey to the laboratory.



### **How do I deliver my sample?**

- The laboratory will accept post-vasectomy samples between 8.30am and 4.30pm Monday to Friday (excluding bank holidays).
- The sample must be delivered within one hour of collection to: Pathology specimen reception, North Tyneside General Hospital, Rake Lane North Shields Tyne and Wear NE29 8NH.
- Pathology specimen reception is signposted within the hospital. Our hospital volunteers at the main entrance will be more than happy to direct you if needed.

### **Could my sample be rejected by the laboratory?**

- Your sample could be rejected by the laboratory if you have not adhered to the strict criteria:
- Your name, date of birth, hospital number, NHS number and date/time of sample must be documented on the sample container
- Your sample should not have leaked in transit
- Your sample can only be accepted if it is in the correct container i.e. the one provided to you at the time of your vasectomy. These containers have been tested for toxicity and other containers may affect the results of your test.

### **How do I get my results?**

The results of your sample will be sent back to the person who requested the test.

This could be your GP or hospital consultant.

Results should be available in around 7 days after you submit your sample.

Please be advised that the laboratory is unable to give out results directly to the patient.

Remember – you should continue to use other forms of birth control until you are advised otherwise by your GP or hospital consultant.

### **Processing of the sample:**

Your sample will be processed by North Tyneside microbiology laboratory. If you require any further information please contact 0191 2932528.

Laboratories processing semen post vasectomy samples (PVSA) are accredited through a national scheme (UKAS).

This accreditation process has recently changed. Currently there is no laboratory in the North-East which has met this new standard where we could refer your specimen to.

Although North Tyneside microbiology laboratory is not accredited we have made every effort possible to ensure that your sample is processed correctly using the latest techniques and standards.

If you have concerns that your PVSA sample is being processed at an unaccredited laboratory please raise them with your surgeon. To have your sample processed at an accredited laboratory would require you to travel outside the region as it is not possible to transport the specimen itself.

## APPENDIX 2

### A. BLOOD CULTURES:

Guidelines for taking blood cultures are available via the Intranet. They are located in the Infection Control Team – Documents

<http://ntghbes1/epa/enablesites/intranet/displayfile.asp?id=102007>

### B. CEREBROSPINAL FLUID (Packs of specimen containers available from Specimen Reception)

1. These samples are urgent and therefore it is important to contact the Microbiology laboratory on extension 32528 to inform them that the specimen has been taken. Send the specimen to the laboratory immediately.
2. A cell count and Gram film will be performed immediately on receipt and the result telephoned. The cell count will not be reported if the specimen is more than 4 hours old on receipt in the laboratory.

For Xanthochromia – refer to Clinical Chemistry Handbook

### C. FAECAL SPECIMENS

1. Ask patient to pass stool into a clean dry container such as a bedpan or pot. Use the screw capped universal with spoon to collect a sample of faeces. Do not contaminate the outside of the container and ensure that the cap is securely screwed down. It is not necessary to fill the container, but a ¼ of the pot MUST be provided, or the specimen will be rejected.
2. If Ova, cysts & parasites are required this test should be requested on ICE.
3. Clearance specimens are not indicated, unless requested by an Environmental Health Officer.

### D. FUNGAL INVESTIGATION

**Skin:** the skin should be taken free of ointments or other applications. Scrapings should be taken with the blunt edge of a sterile scalpel or similar from the periphery of any lesion. The tops of any vesicles should be snipped off.

**Nails:** these should be clipped off using nail clippers and any material underneath the nail also obtained.

**Hairs:** these should be pulled out to include the root. The scalp can be brushed to obtain scales.

Any of the above should be placed in the special transport packets provided by the laboratory and kept dry at room temperature.

Mucosal surfaces should be sampled with the standard liquid swabs.

Sputum and body fluids should be placed in sterile universal containers.

## E. GENTAMICIN ASSAYS

See Antibiotic Handbook <http://intranet/antibiotics/handbook/default.asp>

## F. INVESTIGATION FOR PERTUSSIS

### Swabs

Method for taking sample for pertussis culture:

1. Ask an assistant to sit the child on her lap and hold the head firmly.
2. Use a special per nasal swab available from your local pathology specimen reception. **DO NOT USE AN ORDINARY COTTON WOOL SWAB**
3. Insert the swab gently into the nose and guide it along the floor of the nasal cavity beneath the inferior nasal concha until a resistance is felt due to the swab impinging on the posterior wall of the pharynx. This causes an unpleasant but not painful sensation.
4. Remove the swab and place it into the transport medium.

### Laboratory diagnosis of *Bordetella pertussis* infection

#### Culture

Culture in the first 5 weeks of **untreated** illness. Preferably with flexible per-nasal swab (available from the lab.) or otherwise with throat swab which is less sensitive. Sensitivity of per nasal swab culture is 50%. The lab needs to know to culture for *Bordetella pertussis* so this needs to be highlighted on the form. Even if the child has had antibiotic treatment, it may be worth sending a swab for culture in the first 3 weeks of the illness.

#### Anti-pertussis toxin IgG antibody levels by EIA

Paired sera with the second specimen taken >2 weeks after onset of cough, or single sera taken >2 weeks after onset of cough.

#### PCR

A PCR service for diagnosis is available for children aged less than 12 months admitted to the paediatric ward with a respiratory illness compatible with pertussis. This is performed on either a Nasopharyngeal aspirate or a per nasal swab. The specimen must be less than 72 hours old on arrival at the reference laboratory.

## G. SPUTUM

It is important that sputum is collected properly so as to avoid contamination with mouth flora and that it is transported to the laboratory promptly as sputum provides excellent conditions for bacterial growth. Genuine sputum must be obtained which should be purulent or at least show purulent flecks in order to yield any useful information. Therefore, saliva or mucoid sputum will not normally be cultured. Please provide relevant clinical details e.g. immunocompromised patient, bronchiectasis, recent antibiotic therapy, so that culture results can be interpreted appropriately.

Sputum should be collected as follows:

1. Encourage the patient to expectorate genuine sputum. It may be necessary to employ some form of postural drainage with the help of a physiotherapist.

## NHS GENERAL

2. All specimens should be sent in 60ml containers which should be securely closed.
3. If a delay is anticipated the specimen may be refrigerated at 4°C although this is not ideal.
4. Specimens from patients with endotracheal tubes and tracheotomies should be obtained with a sterile suction catheter and mucus extractor.
5. For investigation of tuberculosis, three specimens, taken at different times, should be collected. In cases where the patients cannot produce any sputum bronchial lavage or fasting gastric juice should be provided. Please inform the laboratory if there is to be any deviation from the above protocol.

### H. THREADWORM

Adult *Enterobius vermicularis* (threadworm or pinworm) inhabit the large intestine and rectum but eggs are not normally found in the faeces as the adult female migrates out of the anal opening to deposit her eggs on perianal skin.

1. Sampling should be done first thing in the morning before bathing or showering.
2. A moist swab should be used to sample skin round the anus. This is placed in a sterile Universal container containing a few drops of saline.

### I. THROAT SWABS

Throat swabs are routinely examined only for beta-haemolytic streptococci. If abscess, quinsy, meningococcal, gonococcal, epiglottitis or diphtherial infection is suspected please indicate in the Clinical Details on the request form.

1. Use a tongue depressor and a good light source.
2. Rotate the swab firmly over the tonsillar area and posterior pharynx if this is clinically inflamed. Avoid the tongue and uvula.
3. Place the swab in the tube of transport medium.

### J. URETHRAL SWABS

Specimens for the diagnosis of STIs are best collected at a GU clinic. In females, cervical swabs should be collected at the same time.

#### Males

1. No urine should be passed for 1-2 hours before swabbing.

## NHS GENERAL

2. The area around the external urethral meatus should be cleansed with sterile saline
3. The specimen is collected by rotating the swab gently in the urethral canal.
4. If a specimen for Chlamydia infection is to be taken, a special swab is required from the Microbiology Department. Instructions are contained in the kit.

### **Females**

1. The patient should not douche or apply other treatment for 12 hours previous nor pass urine for 1-2 hours prior to swabbing.
2. The external genitalia and urethral meatus should be cleansed with sterile saline.
3. The urethra is compressed against the pubis with a gloved finger in the vagina and the finger is drawn downwards to express an exudate while swabbing.

### **URINE FOR CULTURE**

Normal urine is a sterile fluid but is easily contaminated with microorganisms during voiding. It acts as a culture medium and large numbers of contaminating bacteria can grow if there is any delay in transport.

For this reason containers using boric acid preservative are used. Red topped universals are used for adult urines and paediatric containers are used for babies and where only small samples can be obtained.

The containers must be filled to the indicator line for optimum results.

The specimens must be sent to the Microbiology Department as soon as possible.

All urines are processed by flow cytometry and those with bacteria and/or increased leucocytes are selected for culture and sensitivity.

Most negative results are reported on the same day as receipt of the specimen. Positives will be reported within 2-3 days.

### **URINE CULTURE & MICROSCOPY REFERENCE RANGES**

#### **Culture:**

- 0 organisms/ml = No Growth
- 1 – 10,000 organisms/ml = No significant growth
- 10,000 – 100,000 organisms/ml = No significant growth or Doubtful positive result when certain clinical information or criteria are met
- >100,000 organisms/ ml = Positive result

## NHS GENERAL

- When the culture yields three or more different organism types = Mixed growth

### Microscopy:

- $<40\text{WBC}/\text{mm}^3$  AND  $<1,000$  bacterial cells = Culture NOT performed
- Culture is performed when EITHER one or both values exceed these parameters (i.e.  $>40\text{WBC}$  and/or  $>1,000$  bacterial cells).

N.B. Culture is routinely performed on paediatric patients, antenatal patients, immunocompromised and Urology patients

### Collection

In males the prepuce should be retracted. In females the labia should be separated and the vulva cleansed with sterile saline and dried with gauze. If vaginal secretions are likely to contaminate the specimen as occurs commonly in pregnancy, a vaginal tampon may be inserted. The labia should be separated while the specimen is passed.

### VAGINAL AND CERVICAL SWABS

The “HVS” is only really a suitable specimen for the diagnosis of Candida infection, non-specific vaginitis and Trichomonas. Other organisms such as streptococci and anaerobes are cultured for but are often of doubtful significance. Group B streptococci are normal flora in women of childbearing age. A cervical swab obtained under direct vision is essential for the diagnosis of chlamydia and Gonococcal infections. It is essential to state the reason why the swab has been taken.

1. Wear gloves
2. Exclude the use of any cream lubricant or medication.
3. For an HVS the swab should be inserted into the vaginal fornices.
4. The swab should be placed in transport medium.
5. Endocervical/Urethral specimens for Chlamydia testing by PCR are taken using a special swab obtained from Microbiology.

## K. PREGNANCY TEST

The standard test detects a level of 25 IU HCG/L. If menstruation has not started within one week of a negative result, then the test should be repeated. The test uses a monoclonal antibody and is highly specific for human chorionic gonadotrophin.

1. Early morning urine is preferred and should not be obviously blood stained or turbid.
2. Specimens must be sent in a white topped sterile universal container and not in a home produced container.

## WOUND SWABS

Swabs should only be taken when indicated i.e. wound looks infected.

It is essential to state the exact nature of the wound, site, antibiotic therapy and whether post-operative. Avoid the use of local antibiotics.

1. It is often best to clean a wound with sterile saline before taking the swab. Superficial serous exudates are often colonised by saprophytic Gram negative organisms of no pathogenic significance.
2. Take the swab by rotating it in the deepest regions of the wound.
3. For eye swabs, wipe away any superficial exudates and swab under the conjunctivae.
4. For ear swabs, remove any crust or exudates before taking the swab

Do not repeat unnecessarily.