Microbiology User handbook

Contents

1. Introduction

The Microbiology department at the Salisbury District Hospital NHS Foundation Trust provides an analytical and interpretative service on a wide range of clinical specimens for medical and infection control advice to hospital and community health care services. The laboratory also provides microbiological support to the local Health Protection Teams and United Kingdom Health Security Agency (UKHSA) departments. Specialist and Reference test services are used where necessary.

We process over 220,000 specimens each year, many requiring multiple investigations. Our ability to process requests in a timely fashion relies heavily on receiving correctly completed request forms from our users. Your compliance with the guidelines concerning safety, specimen identification and transport will help us to deliver a safe, efficient, and legally defensible service.

In its pursuit of excellence and as part of its continuous quality improvement programme the Microbiology department participates in all relevant internal and external quality assurance schemes.

The repertoire of tests provided by Microbiology support the Trust in its diagnostic and screening programmes. The laboratory is accredited by the Institute of Biomedical Science (IBMS) for Biomedical Scientist training and Biomedical Scientist Specialist training.

It is anticipated that this handbook will provide the information you require to use our service.

2. Change Details

Any copy printed in the wards or GP surgery or other location outside the laboratories control becomes an uncontrolled document and is not managed under the Microbiology Control procedure. It is the responsibility of the copyholder to ensure that any hard copy in their possession reflects the current version available on the intranet sites.

Date	Version Number	Change	Sections affected
	1.0	New format to Q--pulse, updated all sections and split into microbiology only	
20/12/24	2	Updated	All sections
03/06/2025	2.1	Addition of MRSA and Norovirus PCR, change of ref lab for *B. pertussis*	13

03/06/2025	2.1	Removal of Dr Flannagan and addition of Dr. Lam	4

3. Laboratory location

Microbiology department is located on Level 4, SDH North.

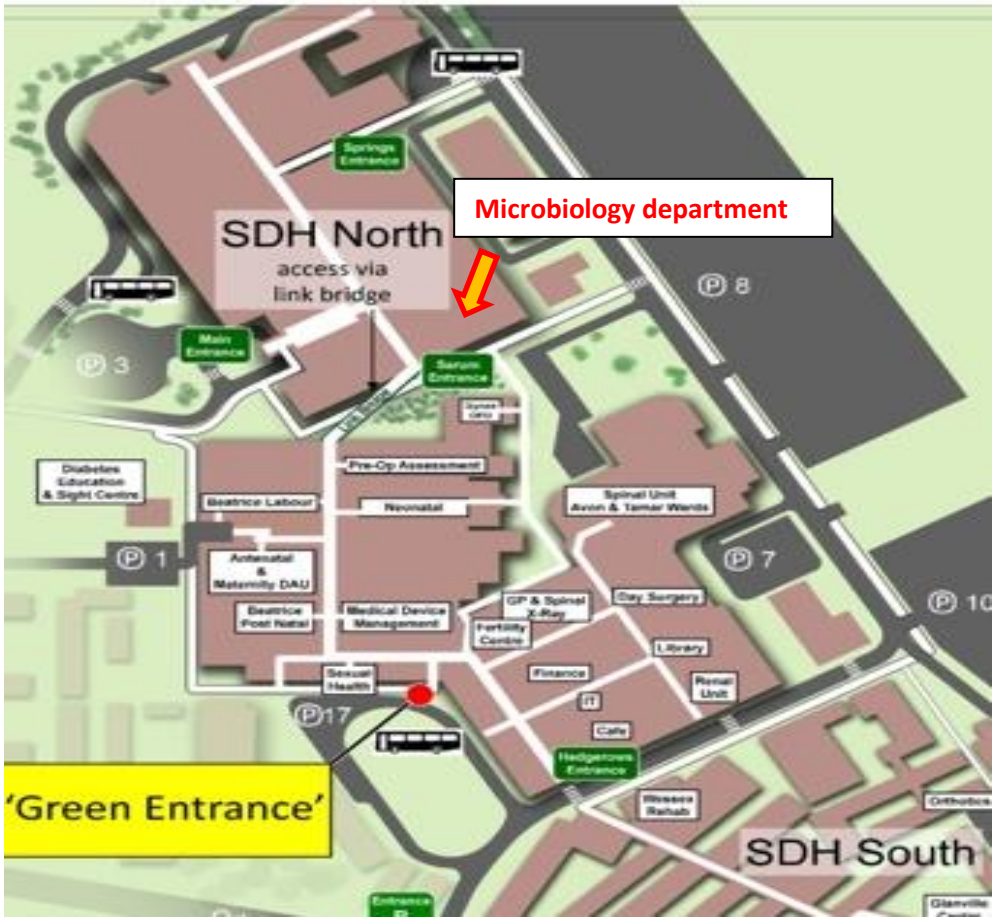


Image 1: Map of the Microbiology department within the Hospital

4. Contact Details

Position	Name	Telephone Number
Laboratory Manager	Jo Harris	Ext. 4115
Laboratory Administrator:	Julie Wilson	Ext. 4105
Quality Manager:	Yinka Olutoye	Ext. 4104
Consultant Microbiologist Laboratory Director/Deputy Clinical Lead CFSF/ IDPS Clinical Advisor	Dr Julian Hemming	Ext. 4110 (01722 429105)
Consultant Microbiologist/	Dr Paul Russell	Ext. 4101 (01722 429105)

Infection Control Doctor		
Consultant Microbiologist/ Deputy Infection Control Lead	Dr Layth Alsaffar	Ext. 4102 (01722 429105)
Consultant Microbiologist/ Antimicrobial Lead	Dr. Bosco Lam	Ext. 4102 (01722 429105)
Bacteriology enquires		Ext. 4099
Virology enquires		Ext. 4122

Postal address:
Department of Microbiology
Salisbury District Hospital NHS Foundation Trust
Salisbury
SP2 8BJ

DX address:
Salisbury PHL
DX 6930100
Salisbury 90 SP

5. Opening hours, Clinical advice, and results

5.1 Laboratory Opening Hours

The laboratory is opened:

Laboratory	
Routine: Monday to Friday	08:00-20:00
On call: Monday to Thursday	20:00-08:00
Saturdays, Sundays & Bank Holidays	09:00-17:00
Friday on call	20:00-09:00
Saturday on call	17:00-09:00
Sunday on call	17:00-08:00
POCT	20:00-06:00

5.2 Clinical advice

For clinical advice on diagnosis and the interpretation of Microbiology results, use of antimicrobials or infection control, Consultant advice is available:

Consultant Microbiologist	
Routine: Monday to Friday	09:00-17:30
On call Monday to Friday	17:30-09:00
Saturdays, Sundays & Bank Holidays	All day via switchboard

For advice during normal working hours: Telephone 01722 429099 (Ext: 4099) or bleep 1967.

For advice out of hours: Telephone 01722 336262 (switchboard) and ask for the duty Consultant Medical Microbiologist.

Friday 17:00hrs to Monday 09:00hrs (non-Bank holiday weekends):

There is a cross-cover provision with Microbiology colleagues from Dorchester.

NOTE: Hospital staff – **DO NOT** use the internal bleep 1967 outside Monday to Friday (i.e., out-of-hours, weekends, and bank holidays) as this will NOT be answered.

5.3 Urgent samples

If a result is required urgently and the sample will arrive during normal working hours, the laboratory MUST be notified by telephone so that we can prioritize the request.

Please ensure that the requesting doctor's contact details are provided on the request form to enable the result to be telephoned to the requesting clinician.

5.4 Testing out of hours

The on-call service is available outside of normal Laboratory opening hours.

The Microbiology out of hours service is an urgent service. Urgent samples out-of-hours should not be sent without agreement with the laboratory on-call staff.

Once the sample has been taken, please contact the duty Biomedical Scientist: Telephone 01722 336262 (Switchboard) and give them details of the sample to be tested. Samples should be taken to the Blood Issue room (Blood bank) on level 3 and placed in the urgent sample box (Microbiology) or placed in the urgent sample box at the reception in Laboratory Medicine.

This service is restricted to only samples that require result before the next routine session. In general, samples normally accepted for the on-call service would include:

- Cerebrospinal fluid (CSF)
- Other samples approved by Consultant Microbiologist

Non-urgent samples (except blood cultures) dispatched out of hours can be placed in the microbiology refrigerator in the blood-bank room in Pathology on level 3, North Block.

Blood cultures taken out of hours should be left at room-temperature in the 'Microbiology' box in the same area.

5.5 Requesting Tests

All routine tests provided by the microbiology laboratory are detailed in Sections 13. All samples must be accompanied with a request form.

Amendments and addition of extra tests to initial requests can still be discussed with the laboratory after processing has started. In general, additional tests must be requested within 48 hours of sample receipt by the laboratory. In some instances, additional tests may not be possible, and a fresh specimen will be required. Further advice can be obtained from the laboratory.

Occasionally, it may be possible to add additional tests onto a saved (frozen) serum sample.

Before sending specimens to the laboratory for investigation, please ensure that you are not duplicating a sample that has already been sent for the same investigation.

5.6 Results

Pathology results are available on the Hospital Review system or via GP computer systems immediately after authorisation.

All laboratory results are returned to the requesting clinician who has ultimate responsibility for ensuring that all results are actioned and communicated to the patient as appropriate.

In cases of difficulty or further clarification, the laboratory enquiry telephone number is 01722 429099 (Ext: 4099).

Please note that we need to establish the caller's identity before giving results over the telephone. For reasons of confidentiality (Caldicott) and Clinical Governance, we are not permitted to give results directly to patients or their relatives.

We advise all healthcare workers NOT to ask for results pertaining to themselves, but to obtain test results from the requesting physician, their doctor or from Occupational Health as appropriate.

Please NOTE: We request that users do not phone the lab to confirm whether samples have been sent or not, as this takes up much valuable time and prevents lab staff from completing their work in a timely fashion. We recommend that patient notes are annotated to confirm samples requested and taken.

5.7 Telephoned results

Results of urgent requests and results which may aid the immediate patient management will be telephoned. This includes all positive blood cultures, positive CSFs, and other clinically significant results.

All other results will only be telephoned on request.

5.8 Turnaround times

The laboratory continually monitors its turnaround times to ensure that it complies with its responsibilities within the patient pathway. The laboratory measures its turnaround times as the time from receipt until the point at which the result is authorised.
The expected turnaround times for each test are indicated on the individual test sheets in section 13 below.

5.9 Measurement of Uncertainty

Any test/procedure performed in the laboratory may be subject to a variety of factors that may influence the outcome of the test. These may occur at any of three stages:

• Pre-examination

- Examination stage
- Post-examination

However, our processes are risk assessed to reduce or mitigate adverse outcome of examinations performed.

6 Sample Collection

6.1 Viral and bacterial serology tests

A 4mL yellow top vacutainer tube is usually adequate for up to three viral serology screening tests and a referral to the reference laboratory if the screening test is positive.

For four or more tests will require two 4mL samples (2 x 4mL yellow top vacutainer). For unusual or "send away" tests not performed at SDH, an additional sample is advised to speed up handling and packaging.

Please use only the appropriate request on T-quest or Microbiology request forms for viral & bacterial serology tests. [See image 3 below].

6.2 Optimum time of and conditions for collection

Samples for bacterial culture, wherever possible, should be collected prior to commencement of antibiotic treatment.

To avoid contamination of a specimen during collection, an aseptic technique must be used: always use universal precautions, wash hands, and wear appropriate personal protective equipment. Decontamination of the sampling site or equipment may be necessary e.g., skin antisepsis before taking blood cultures or Cerebro-Spinal Fluid (CSF), or catheter port antisepsis before collecting a specimen of urine via a catheter (CSU).

Specimens must be collected into sterile containers with close fitting lids. The specimen must be clearly labelled. Once collected, place the specimen into a plastic specimen bag and seal the bag. Wash your hands and dispose of clinical waste into a clinical waste collection bag. Sharps must be disposed of safely and appropriately.

6.3 Health and safety issues pertaining to sample collection

Every specimen sent for microbiology examination should be treated as potentially infectious and standard precautions must always be observed.

When performing procedures that are likely to produce aerosols, cough inducing procedures or lancing of abscess on patients known to be infected with high-risk pathogens; appropriate PPE such as face masks, goggles or full facial visors must be worn. Used sharps must be disposed of according to Trust policy.

Samples likely to contain high risk pathogens as described by the Advisory Committee for Dangerous Pathogens are handled at a higher containment level to safeguard both laboratory staff and other downstream workers. The information is also of benefit to the patient ensuring that appropriate testing is performed.

Refer to appropriate Trust policies for further information:

- Hand Hygiene Policy

- Infection Control policy
- Policy for the Prevention of Sharp Injuries

7 Sample Containers

7.1 Supply of sample containers

The following Microbiology consumables can be obtained from the following Materials Management Team, contactable on: **Sft.pathstores@nhs.net**

Consumable	Description
	Handwritten request form (For locations that do not have access to TQUEST only)
	Container with boric acid - for urine bacteriology specimens
	Container without boric acid - for urine bacteriology specimens
	Bacteriology swabs in Amies transport medium with charcoal
	Bacteriology swabs in Amies transport medium
	Pernasal swab for whooping cough
	Viral swabs in viral transport medium
	Faeces container
	Sterile universal container
	Sputum container

	Cobas transport media for *C. trachomatis* and *N. gonorrhoeae*
	Blood culture bottles
	Vacutainer tubes for blood samples
	Urgent nasopharyngeal swab for Covid-19
	Vacutainer tube for blood samples (Peach pink top, paediatric EDTA sample tube)
	Sterile plastic bijoux container
	Fungal culture kit

7.2 Selection of appropriate containers

Please see Repertoire of Tests Section 13 for the selection of appropriate container for test.

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

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

NOTE: Users are reminded to only retain sufficient stock of sample containers for normal usage and to check the **expiry date** of stock on a regular basis and before giving out to patients or collecting sample with it.

7.3 Labelling of sample containers

Clinical governance requires that sample container is labelled with sufficient information to provide an unequivocal link with the request form and the patient from whom they are collected.
Pre-printed addressograph labels are acceptable on sample containers. However, they must contain all necessary patient details.

Minimum data set for identification:

- Patient's surname
- Patient's forename
- Date of birth and/or hospital number/NHS number

Microbiology sample containers should additionally include type of sample and/or site of collection.

NOTE: Multiple samples taken at different times, sample container MUST be labelled with the time the sample is taken (24 hr clock).
NOTE: Failure to label sample containers appropriately may result in the sample being rejected.

8 Request Forms

All samples must be accompanied by a properly completed request form. Request forms MUST contain sufficient information to provide an unequivocal link with the sample and the patient from whom they are collected.

The following patient detail MUST be added written on the request form:

- Patient's surname
- Patient's forename
- Date of birth and/or hospital number/NHS number

In addition to the above details, the following should be noted:

- Tests for antibiotic assay levels, must contain the following details:
  - Mg of last dose given
  - Date and time of last dose
  - Date and time when sample was taken.
- Serology requests should include onset date of symptoms as this has relevance to interpretation of results.

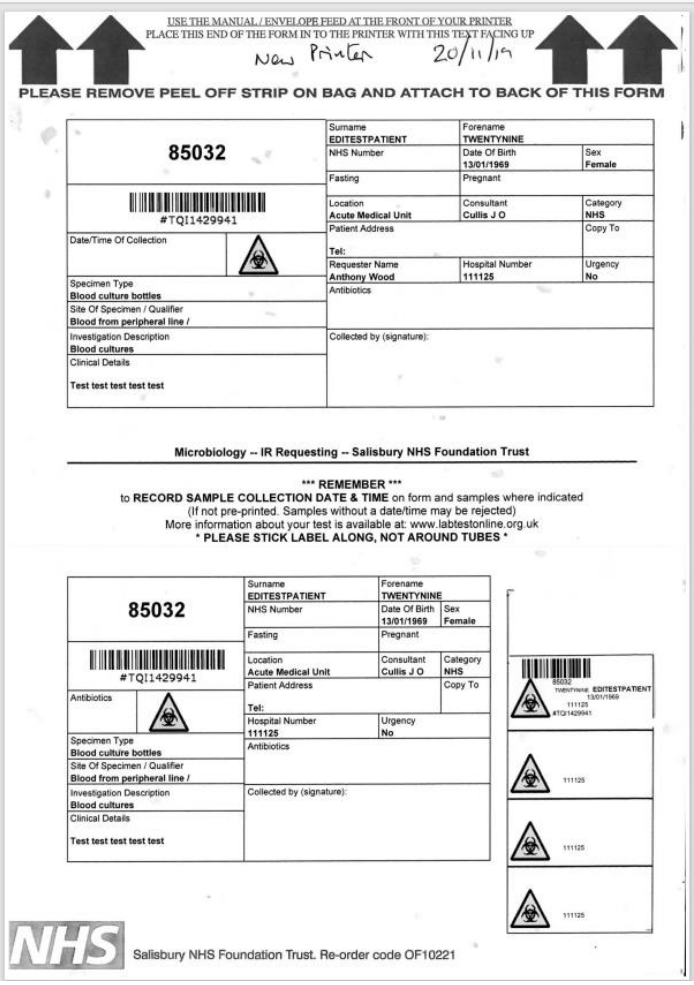
All requests forms MUST include the requesting physician's signature.
DO NOT add a microbiology tests, (e.g., viral serology), to a Laboratory Medicine sample/form. This may cause serious delays in the sample arriving at the laboratory and result in insufficient sample for testing.
NOTE: Failure to comply with the above guidance may result in the sample being rejected

8.1 Electronic requesting

Please use electronic requesting (T-QUEST) orders where available. It is important to ensure that the correct sample accompanies the correct request form before placing inside the sample bag.
Please ensure that you order the correct test and select the correct sample type as failure to do so may lead to incorrect/none testing. If the test you require is not visible, please contact the laboratory to check that the test is available.

Include clinical details and symptoms, as well as information on antibiotic use, foreign travel, outbreaks, date of onset, etc.

Where TQUEST requesting is not available handwritten request forms must be used.



USE THE MANUAL / ENVELOPE FEED AT THE FRONT OF YOUR PRINTER
PLACE THIS END OF THE FORM IN TO THE PRINTER WITH THIS TEXT FACING UP
New Printer 20/11/19

PLEASE REMOVE PEEL OFF STRIP ON BAG AND ATTACH TO BACK OF THIS FORM

85032

#TQI1429941

Surname EDITESTPATIENT	Forename TWENTYNINE	
NHS Number	Date Of Birth 13/01/1969	Sex Female
Fasting	Pregnant	
Location Acute Medical Unit	Consultant Cullis J O	Category NHS
Patient Address Tel:		Copy To
Requester Name Anthony Wood	Hospital Number 111125	Urgency No
Antibiotics		
Collected by (signature):		

Date/Time Of Collection

Specimen Type: Blood culture bottles
Site Of Specimen / Qualifier: Blood from peripheral line /
Investigation Description: Blood cultures
Clinical Details: Test test test test test

Microbiology -- IR Requesting -- Salisbury NHS Foundation Trust

*** REMEMBER ***
to RECORD SAMPLE COLLECTION DATE & TIME on form and samples where indicated
(If not pre-printed. Samples without a date/time may be rejected)
More information about your test is available at: www.labtestonline.org.uk
* PLEASE STICK LABEL ALONG, NOT AROUND TUBES *

85032

#TQI1429941

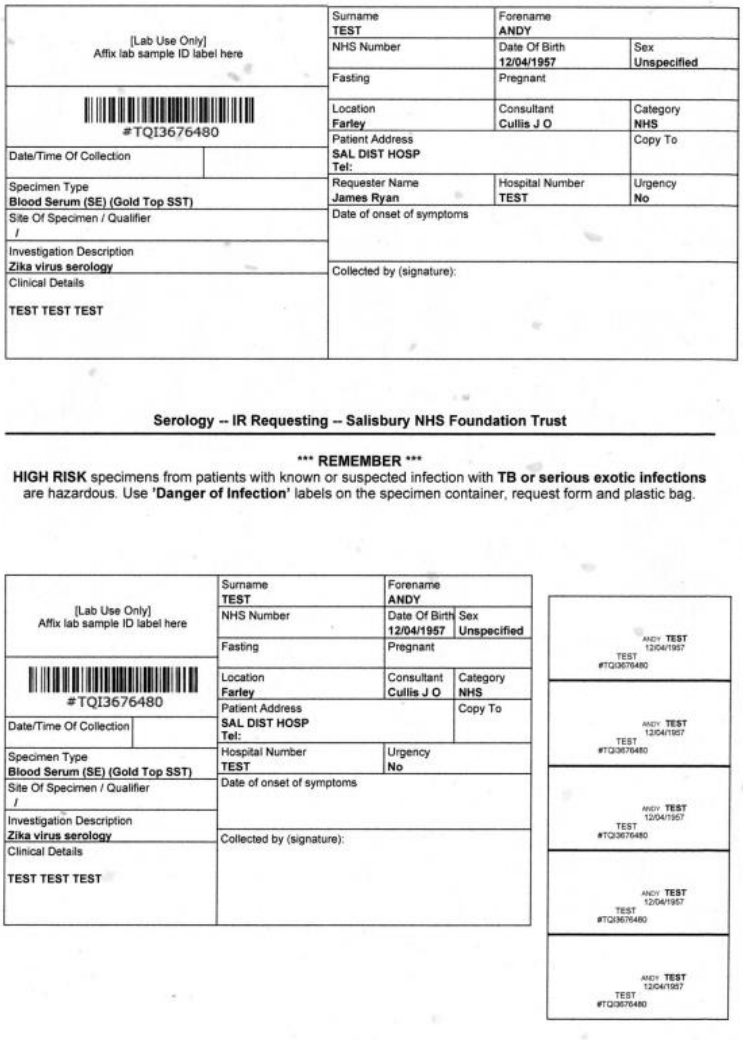
Surname EDITESTPATIENT	Forename TWENTYNINE	
NHS Number	Date Of Birth 13/01/1969	Sex Female
Fasting	Pregnant	
Location Acute Medical Unit	Consultant Cullis J O	Category NHS
Patient Address Tel:		Copy To
Hospital Number 111125	Urgency No	
Antibiotics		
Collected by (signature):		

Antibiotics
Specimen Type: Blood culture bottles
Site Of Specimen / Qualifier: Blood from peripheral line /
Investigation Description: Blood cultures
Clinical Details: Test test test test test

111125
111125
111125

Salisbury NHS Foundation Trust. Re-order code OF10221

Image 2: Microbiology TQuest form



[Lab Use Only] Affix lab sample ID label here	Surname **TEST**	Forename **ANDY**	
	NHS Number	Date Of Birth **12/04/1957**	Sex **Unspecified**
#TQI3676480	Fasting	Pregnant	
	Location **Farley**	Consultant **Cullis J O**	Category **NHS**
Date/Time Of Collection	Patient Address **SAL DIST HOSP** **Tel:**		Copy To
Specimen Type **Blood Serum (SE) (Gold Top SST)**	Requester Name **James Ryan**	Hospital Number **TEST**	Urgency **No**
Site Of Specimen / Qualifier /	Date of onset of symptoms		
Investigation Description **Zika virus serology**	Collected by (signature):		
Clinical Details **TEST TEST TEST**			

Serology -- IR Requesting -- Salisbury NHS Foundation Trust

*** REMEMBER ***
HIGH RISK specimens from patients with known or suspected infection with **TB or serious exotic infections** are hazardous. Use **'Danger of Infection'** labels on the specimen container, request form and plastic bag.

[Lab Use Only] Affix lab sample ID label here	Surname **TEST**	Forename **ANDY**	
	NHS Number	Date Of Birth **12/04/1957**	Sex **Unspecified**
#TQI3676480	Fasting	Pregnant	
	Location **Farley**	Consultant **Cullis J O**	Category **NHS**
Date/Time Of Collection	Patient Address **SAL DIST HOSP** **Tel:**		Copy To
Specimen Type **Blood Serum (SE) (Gold Top SST)**	Hospital Number **TEST**	Urgency **No**	
Site Of Specimen / Qualifier /	Date of onset of symptoms		
Investigation Description **Zika virus serology**	Collected by (signature):		
Clinical Details **TEST TEST TEST**			

Image 3: Serology TQuest Form

8.2 Manual requesting

In the absence of an electronic T Quest form, a handwritten form can be used. When completing a handwritten form, ensure to fill the following details correctly.

Minimum Data Set for Identification:

- Hospital number and/or NHS number
- Patient surname and forename (in full, not initials)
- Date of birth (DOB)
- Patient address if hospital number / NHS number not supplied.

In addition to the minimum data set for patient identification, ensure all other relevant fields are completed such as:

- Ward/ Practice, Consultant/GP
- Patient address
- Patient gender
- Date and time of collection
- Specimen type

- Investigation(s) required
- Name of requesting clinician and bleep number
- Relevant clinical details
- Current drug therapy
- Copy reports, if required
- Patient category (PP/NHS)

To ensure samples can be safely and appropriately tested in the laboratory, include details of foreign travel, symptoms and known or suspected contact with other patients known to have communicable disease.
It is essential to use a ballpoint pen when completing request forms and ensure that the same details are on both top and bottom copies of the request form.
DO NOT use a felt tip and fountain pen to fill the form. This can lead to delay in processing samples, or requests being missed altogether, as carbon copies are often incomplete. When addressograph labels are used, please ensure that a label is fixed to EACH part of the request form.

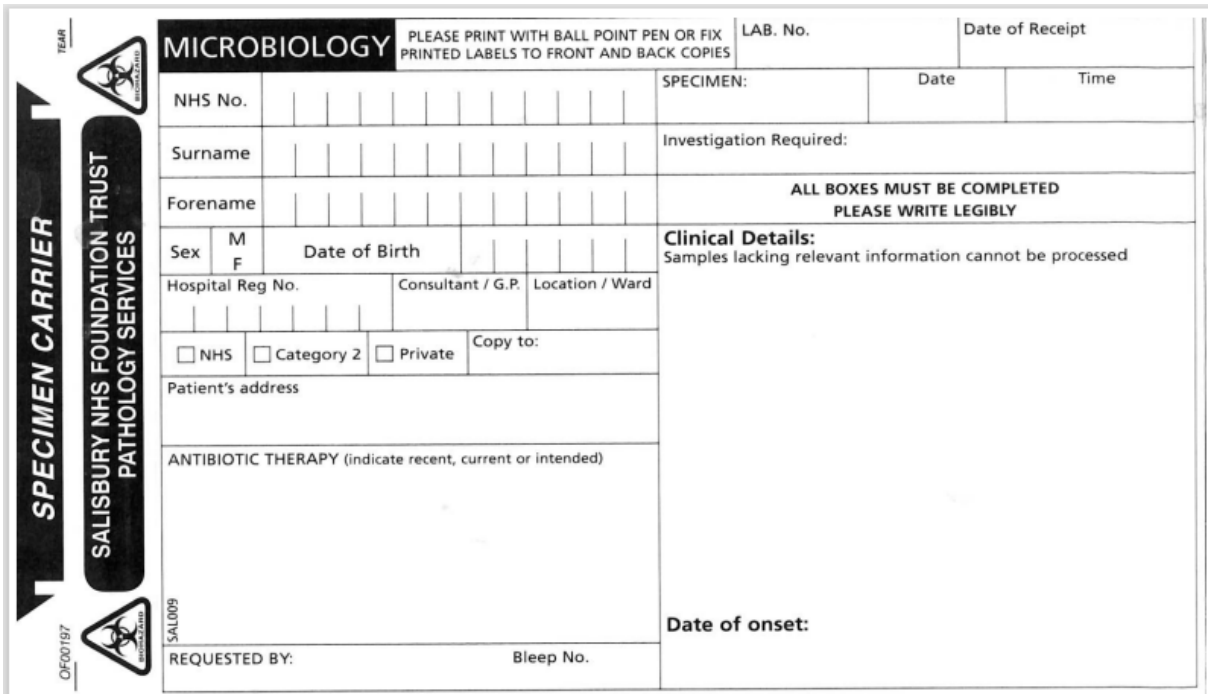

SPECIMEN CARRIER
SALISBURY NHS FOUNDATION TRUST PATHOLOGY SERVICES
MICROBIOLOGY
PLEASE PRINT WITH BALL POINT PEN OR FIX PRINTED LABELS TO FRONT AND BACK COPIES
LAB. No.
Date of Receipt
NHS No.
SPECIMEN:
Date
Time
Surname
Investigation Required:
Forename
ALL BOXES MUST BE COMPLETED
PLEASE WRITE LEGIBLY
Sex M F
Date of Birth
Clinical Details:
Samples lacking relevant information cannot be processed
Hospital Reg No.
Consultant / G.P.
Location / Ward
NHS
Category 2
Private
Copy to:
Patient's address
ANTIBIOTIC THERAPY (indicate recent, current or intended)
SAL009
Date of onset:
REQUESTED BY:
Bleep No.

Image 4: Handwritten Request Form

8.3 Anonymous/uniquely identified samples

In certain circumstances patient identification details are intentionally hidden or substituted with particular identification numbers (e.g., Sexual Health patients). In such instances, a properly coded identifier must be used in place of the patients last name and first name (e.g., GUM patient samples need to have a GUM number, patient gender, and DOB).

9 Sample Acceptance and Rejection Criteria

Sample acceptance criteria ensure adequate identification for Microbiology samples and request forms for them to be accepted by the laboratory for analysis. It is important to clearly identify the investigations required with relevant supporting information. Inadequate or inaccurate labelling might cause delays before Microbiology results are available and affect patient care.

In case the sample is not repeatable or not reproducible, it will be processed but will have a disclaimer added onto the report. Microbiology will accept no responsibility for samples analysed which initially failed to meet the acceptance criteria. Where the sample is repeatable/ reproducible, no analysis will be performed, and an appropriate comment will be included on the Microbiology report.

Samples and request form must be received with all required matching patient details. This must be received in a safe condition i.e., not leaking/stained with bodily fluids as this can cause a health risk to transport staff, and laboratory staff alike.

The Microbiology Laboratory will reject any sample in the following scenarios:

- Sample with no unique identification of the patient i.e., they do not meet the minimum data set for identification,
- An incorrect sample type has been received for the test(s) requested,
- Sample is received in a condition that poses health and safety risk to staff e.g., leaking or sharps attached,
- Sample or request form is unlabelled or incorrectly labelled with less than the minimum data sets for patient identification,
- There is a mismatch of details between the form and sample(s) received,
- The information provided is illegible,
- Collection container is out of date.

Where possible the requester will be contacted by telephone and advised of the reason for the sample being rejected (and a repeat where possible being sent). A rejected sample will result in a report indicating the key reasons for rejection, with a request for a repeat sample being included where appropriate.

10 Transportation of Samples

Please refer to the Trust Specimen Transportation Policy for the correct procedures for submitting samples to the laboratory.

10.1 Transportation of routine samples to the laboratory

All specimens must be transported in a timely manner such that it preserves the integrity of the sample and allows for rapid testing in urgent situations.

10.1.1 Pneumatic Chute

Samples may be sent direct to the laboratory using the Pneumatic chute (Whooshy) system:

- Pathology address: 900
- Microbiology address: 901

NOTE:

- DO NOT use the vacuum transport tube (whooshy) to transport high-risk samples.
- DO NOT use this system when the laboratory is closed i.e., out-of-hours.

- DO NOT use to transport CSF sample.

10.1.2 Portering Services

During routine working hours the theatre porters routinely deliver samples to pathology department three times daily direct to level 4: 08.30, 12.30, and 16.40.
Specimens from theatres, DSU and New Hall are delivered to level 4 and signed for by laboratory staff.

10.1.3 Courier Services

The hospital couriers collect samples from external clinics, other outlying hospitals, and GP surgeries. These samples are transported in **UN3373** approved carriers with secure and leak proof lids that can be closed and sealed. The boxes carry a warning label and are lined with absorbent material to absorb any leakage. Samples are delivered to Laboratory Medicine on Level 3.
There are ten transport deliveries each day and these arrive between approximately 11.00am and 19.00pm.
Where this is not practicable due to delays in transportation samples should be kept refrigerated. Samples may be kept in a refrigerator at a temperature of 4-8^{o}C for a maximum of 24 hours prior to transportation.

NOTE: Blood Culture bottles MUST NOT be refrigerated. These must be transported to the Laboratory as soon as possible for incubation at 37°C within 3 hours of collection.

Out-of-hours (from 20:00 until 08:00 Monday to Friday, from 17:00 until 09:00 on Saturdays and Bank Holidays and all-day Sunday) the vacuum tube to the Microbiology reception is switched off, and any samples sent may be randomly sent to locations other than the laboratory!

NOTE: For transportation of samples to the laboratory from external sites or by post, and use of the pneumatic chute system, please refer to the Trust Specimen Transportation Policy. In cases of difficulty or further clarification, the laboratory enquiry telephone number is 01722 429099 (Ext: 4099).

10.2 Transportation of urgent samples

Urgent samples must be sent to the laboratory immediately. To discuss an urgent sample with the on-call Biomedical Scientist out of hours please phone Switchboard: Telephone 01722 336262 and ask for the on-call Biomedical Scientist.

10.3 High Risk Samples

All samples should be regarded as potentially infectious. However, certain samples constitute a potential higher risk of infection to persons handling them:

- Typhoid/paratyphoid fever
- Dysentery
- Tuberculosis (samples from sites where tuberculosis infection is likely)
- Anthrax
- Brucellosis
- Transmissible Spongiform Encephalopathy (including CJD)
- Viral haemorrhagic fever

- Avian Flu
- MERS

To transport such samples to the laboratory, please refer to the Trust's Policy for the Transport of Pathology Specimens.

To minimise the risk of infection from these samples, ensure they are packaged as follows:

- Flag as "Danger of Infection" on Tquest,
- Specify the nature of the risk on the request form,
- Use unambiguous and commonly recognised terminology,
- Place the sample in a sealable plastic bag and close the seal.

This is a necessary procedure to safeguard both laboratory staff and other downstream workers.

Note: The Consultant Microbiologist **MUST** be contacted **BEFORE** collecting specimens from a patient suspected of having a Viral Haemorrhagic Fever, Human Avian Flu or CJD.

11. Sample storage

See the table below for sample retention times. If additional investigations are required, please contact the laboratory.

Type of Clinical Material	Retention time
Semen-vasectomy **Semen- infertility**	Kept for 48hrs after result is completed
Urine samples	3 days
Covid-19 samples (NEGATIVE)	4 days
Bacteriological swabs Sputum/NPA/BAL samples **High risk/Danger of infection samples** **Faeces samples** **Rejected samples** **Chlamydia samples**	1 week
Mycology samples	3 weeks
Tissue/Fluid samples	1 month
CSF	Kept for current month plus 1 month
Resistant organisms from urine samples **MRSA and resistant organisms from other samples**	3 months
Covid-19 samples (POSITIVE)	Up to 6 months (as storage allows)
***C. difficile* positive samples** **Significant blood culture isolates**	1 year
Antenatal booking blood serum samples **Needlestick injury serum samples** **Serum samples**	2 years
Referral CL2 slopes **Referral CL3 Slopes**	Kept until Reference laboratory report is returned

12. Quality Assurance in Microbiology

The Microbiology department is committed to the provision of high-quality and professional service to our service uses. We maintain assurance of the quality of our service through the following.

12.1 UKAS accreditation

The laboratory is working towards accreditation by the United Kingdom Accreditation Services (UKAS).

12.2 External Quality Assurance (EQA)

The laboratory takes part in different EQA schemes from various providers to cover most of the tests provided; we participate in EQA from UK NEQAS (National External Quality Assessment Scheme), QCMD (Quality Control for Molecular Diagnostics), BMSMicro and LabQuality.
The EQA schemes enables us to compare our results with that of other laboratories using the same, or different platforms and methods.

12.3 IQC (Internal Quality Control)

We use independently sourced control materials which gives results in the expected range to control our reagents and platforms. Patient results are not released when there is IQC failure.

12.4 IQA (Internal Quality Assurance)

This is a programme of duplicate testing of samples received. The success of our IQA proves the repeatability of the results. Any significant deviation is investigated.

12.5 Acceptance testing

This is a process that ensures that new lots of reagents and kits are performing as expected before being introduced for us. We also perform suitability checks on all suppliers (including the referral laboratories), to ensure they offer a high quality, certified or accredited service.

12.6 Audits

All aspects of the laboratory work are audited bi-annually with the Quality Management System and areas of high-risk audited annually. Non-conformances are investigated and suitable corrective actions are put in place to prevent future occurrence.

12.7 Quality indicators

Microbiology department also have quality indicators that are used to measure the quality of work done, the include but not limited to:

- **Turnaround Times**- these are monitored monthly to ensure patient care is adequately and efficiently met.
- **Training and Competence**- all our staff are adequately trained, and competency assessed to carry out their task. Our staff are encouraged to participate in Continuous Professional Development which is supported by event provided by the Trust.
- **User Feedback**- Feedback from our users is sort annually and reviewed to enable us to address issues and concerns from them. Complaints and concerns are investigated and responded to within timescales found in Trust guidelines.

- **Datix Incident Reporting**-Incidents are recorded through the Datix Incident Reporting form of the Trust. All incidents are investigated, and appropriate actions put in place.
- **Staff Suggestions**- Staff are encouraged to contribute to quality in the department. All range of staff grades have mediums of adding value to the service we provide.

13. Repertoire of Tests (A-Z)

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

Our laboratory offers a range of specialist tests which are undertaken at reference laboratories. The information where a specific specialist test is performed is indicated in the 'Additional Comments' section for each test.

Please contact the laboratory for any queries regarding the tests offered and information regarding any special sample requirements.

Please find a test using the index.

13.1 Bacterial Culture, Fungal Culture and Viral Investigations

Blood culture

Investigation	**Blood Cultures**
Tests	Gram stain, if positive, Culture & Sensitivities
Sample type	Adult: 5-10 ml of blood per bottle. Paediatric: 3-4 ml of blood per bottle.
Collection Container	Adult Blood Culture set: Aerobic (blue) and Anaerobic (purple) bottles. Paediatric Blood Culture bottle: Aerobic (yellow) bottle. 
Sample collection	• Samples should be collected before antimicrobial treatment. • Samples should be taken as soon as possible after a spike of fever. N.B. To guarantee optimal result please ensure that the blood culture set is transported to the laboratory within 3 hours of the sample being collected.
Turnaround Time	36 hours- interim paediatric result 5 days- Negative result Positive results are phoned to the wards as soon as possible. >5 days if the sample requires extended culture.
Limitations	• Blood cultures should only be taken when there is a reason to suspect infection and not for routine assessment. • Delays in transportation may affect the recovery of pathogens.

	• Any recent antimicrobial therapy can have a significant effect on blood culture results by decreasing the sensitivity of the test. • If patients have received previous antimicrobial treatment, bacteraemia should be considered even if blood culture results are negative. • False negatives may occur if inadequate blood culture volumes are submitted.
Out-of-Hours-Testing	Bottles should be left at room temperature in blood-issue room. DO NOT PLACE IN THE FRIDGE
Additional Comments	DO NOT REMOVE OR COVER UP THE BARCODE LABELS AS THESE ARE REQUIRED IN THE LABORATORY.

Bordetella pertussis

Investigation	*Bordetella pertussis* culture
Tests	Isolation and characterisation of *Bordetella* species.
Sample type	Pernasal swab
Collection Container	Pernasal swab (blue top)  
Sample collection	• A pernasal swab is inserted through a nostril and advanced along the floor of the nose until it reaches the nasopharynx. • Optimally collected before antimicrobial therapy started. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated. NOTE: Delays of over 48 hours are undesirable.
Turnaround Time	7 days
Limitations	• Samples taken >2 weeks after onset of symptoms may not yield a positive result. • It is advisable to also rule out respiratory viruses when testing for pertussis. Two sample should be taken: one for the culture of Bordetella species and the other for respiratory virus PCR. • If pertussis PCR is required, send a dry swab i.e., swab without transport medium. Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	None

Candida Antifungal Susceptibility testing

Investigation	Antifungal susceptibility testing for *Candida* species.
Tests	Antifungal susceptibility testing
Sample type	Pure culture
Collection Container	N/A
Sample collection	N/A
Turnaround Time	10-14 days

Limitations	Consultant Microbiologist will specify which drugs are to be tested.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Bristol

Cerebro-Spinal Fluid (CSF) Culture

Investigation	Cerebro-spinal Fluid (CSF) Culture
Tests	Cell count, Gram stain and Culture
Sample type	1–2ml CSF
Collection Container	Two sterile plastic bijoux containers. Please send **1st** and **3rd** samples. 
Sample collection	• Optimally collected before antimicrobial therapy started. Do not delay antibiotic administration if clinically indicated. • Dispense CSF (minimum 0.5ml in each bottle) into single use containers and label in order. • Specimens should be sent to the laboratory without delay during normal hours. • Outside of normal hours samples should be placed in the pathology reception and the on-call Microbiology Biomedical Scientist contacted through switchboard. • State if TB culture or Cryptococcal culture/antigen testing is required.
Turnaround Time	2 hours for microscopy. 3 days for culture.
Limitations	• Cells degenerate. A delay in transportation may produce a false cell unrepresentative of the clinical picture and may affect the recovery of pathogens.
Out-of-Hours-Testing	Yes, by arrangement, 24/7.
Additional Comments	None

Corneal Scrape Culture

Investigation	Corneal Scrape Culture
Tests	Gram stain & Culture
Sample type	Corneal scrape
Collection Container	Direct inoculation onto plates (CBA, CHOC, FAA & SAB), slide and into saline bottle (if Acanthamoeba investigation is required) 
Sample collection	• Optimally collected before antimicrobial therapy started. • Carefully smear material onto agar plates and onto glass slide (circle area with permanent marker). • If insufficient specimen to make an impression smear and inoculate plates, please prioritise culture plates.

	• Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated. Delays of over 48 hours are undesirable.
Turnaround Time	2 hours for microscopy (During normal working hours) 2 – 5 days for culture.
Limitations	• Requires good amount of cellular material. • Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	None

Faecal Samples for bacterial, viral and parasitology tests

Investigation	**Tests**
Faeces Culture	Culture and sensitivities
Cryptosporidium microscopy	ZN stain for the detection of *Cryptosporidium* sp.
Helicobacter pylori antigen detection	*Helicobacter pylori* antigen testing
Clostridium difficile Toxin	Toxin Detection
C. difficile PCR ribotyping	PCR
Detection of viruses e.g., enterovirus	Faecal Viral PCR
Parasitology	Microscopy
Rotavirus EIA	Antigen detection
Norovirus	PCR
Collection Container	Universal with spoon (blue top) 
Sample collection	• Optimally collected before antimicrobial therapy started. • Specimen may be passed into a clean, dry, disposable bedpan or similar container and transferred to an appropriate collection container. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	• Faecal Culture: 4 days • Cryptosporidium microscopy: 2 days • *Helicobacter pylori:* 1 day • C. diff toxin: 1day • C. diff ribotyping: 10-14 days • Enterovirus: 10-14 days • Parasitology: 6 days • Rotavirus: 1 day
Limitations	• Clinical details are essential for processing. • Delays in transportation may affect the recovery of pathogens.

	• *H. pylori*- This is a qualitative assay for *H. pylori* antigen in stool. A negative result does preclude the possibility of infection with *H. pylori*. • Rotavirus- Limited to children <5 years old.
Out-of-Hours-Testing	No
Additional Comments	• Cryptosporidium microscopy is only tested on BS5-BS7 type stool samples or if specifically indicated in clinical details. • H. pylori antigen testing is specific and allows post treatment testing or re-testing if symptoms re-occur despite therapy. • *H. pylori* stool antigen testing is more specific and allows post treatment testing or re-testing if symptoms re-occur despite therapy. • Public Health England produces a useful guide on who and when to test for *H. pylori*: https://www.gov.uk/government/publications/helicobacter-pylori-diagnosis-and-treatment • C. diff toxin test is only performed on liquid / semi-formed stools BS5-BS7 type stool. • *C. difficile* toxin test is performed on in-patient samples, patients over 65 years old or patients with history of antibiotic-associated diarrhoea (please state 3 months antibiotic history). • Samples from children < 2 years old are unsuitable for investigation for *C. difficile*. • Do not request for *C. difficile* if a positive result is within previous 28 days. • Parasitology- Please contact Laboratory if 'hot-stool' examination is required. • Detection of viruses- is performed at UKHSA Bristol • C. diff ribotyping is performed at CDRN Leeds • Cryptosporidium typing is performed at PHW, Swansea

Fungal Culture

Investigation	Fungal Culture
Tests	Microscopy & Culture
Sample type	• Skin • Nails • Hair
Collection Container	Fungal culture kit  Universal white top 
Sample collection	**Skin Specimens:** Skin lesions should be collected by scraping skin from the advancing edge of the lesion with a blunt scalpel blade or other

	sharp instrument. Place the scraping into a special Mycology transport pack. Please make sure you send enough material for both microscopy and culture. At least 5mm of skin flakes are required. **Nails:** Clippings should include the full thickness of the nail and extend as far back from the edge as possible. Samples should be sent in a Mycology transport pack. Several small parings are preferred to one large sample to optimise culture results. Nail parings should be taken from the diseased area, the discoloured or brittle parts of the nail and cut back as far as possible from the free edge as some fungi are restricted to the lower parts. Scrapings can also be taken from under the nail to supplement the clipping. Nail clippings often fail to grow fungi even if present. **Hair**: Hair should be plucked from affected areas together with skin scrapings from associated scalp lesions. Broken lustreless hair should be selected from the margin of the scalp lesion. Hair should be removed with epilating forceps. The hair follicle and one inch of proximal hair should be sent to the laboratory. Receipt of cut distal ends will not be processed.
Turnaround Time	7 – 10 days for microscopy 3 – 4 weeks for culture
Limitations	• Swabs are of little value for the investigation of dermatophyte infections. • Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	For further information and guidance on recommended treatment options please refer to NICE website: Fungal skin infection - body and groin | Health topics A to Z | CKS | NICE

Gonococcal Culture (GUM clinic only)

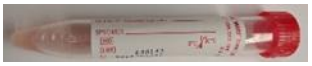
Investigation	Culture for *Neisseria gonorrhoeae* (GUM clinic only)
Tests	Culture and sensitivities
Sample type	• Endo-cervical swab • Urethral swab • Throat swab • Rectal swab
Collection Container	Transport swab (black top) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. NOTE: SWABS FOR GONOCOCCAL INVESTIGATION SHOULD NOT BE REFRIGERATED as this significantly reduces the recovery rate.
Turnaround Time	4 days
Limitations	• Clinical details are essential for processing. • Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	None

Gynaecological Culture

Investigation	Gynaecological Culture
Tests	Microscopy (where applicable) & Culture
Sample type	• Vaginal swab • Endocervical swab • Urethral swab • Penile swab.
Collection Container	Transport swab (black top) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated. • Optimally collected before antimicrobial therapy started.
Turnaround Time	4 days
Limitations	• Essentially, in uncomplicated cases of vaginal discharge a diagnosis can be reached using clinical history, characteristic appearance, and the pH of the discharge. • Speak to Consultant Microbiologist if culture for *Neisseria gonorrhoeae* is required. The laboratory now provides PCR for the detection of *N. gonorrhoeae*. • For *N. gonorrhoeae* testing please send a Cobas PCR *Chlamydia* swab and make it clear that testing for *N. gonorrhoeae* is required. One Cobas swab can be used to test for both *Chlamydia* and *N. gonorrhoeae* if requested. • Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	None

Infection Control Screening Tests

Investigation	Tests
MRSA	Culture & Sensitivities
MRSA	PCR
VRE	Culture & Sensitivities
CRE	Culture & Sensitivities
Candida auris	Culture & Sensitivities
Sample type	
MRSA	Swab, Urine, Sputum
MRSA PCR	Nasal swab
VRE	Rectal swab, Faeces, other swabs
CRE	Rectal swab
Candida auris	Swab, Urine, Sputum
Collection Container	Transport swab (Black topped)  Universal (White top)

	 Universal (60ml wide-mouth, metal top)  Universal with spoon (blue top)    Viral swab for PCR
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	
MRSA culture	Negative: 1 – 2 days Positive: 2-4 days
MRSA PCR	1 day
VRE	Negative: 1 – 2 days Positive: 2-4 days
CRE	Negative: 2 days Positive: 4 days
Candida auris	Negative: 1 – 2 days Positive: 2-4 days
Limitations	Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	See Trust's Infection Control Policies

Intravenous (IV) Cannula Culture, e.g., CVP line tip

Investigation	IV Cannula Culture, e.g., CVP line tip
Tests	Culture
Sample type	End of cannula tip (end 4 cm) Note: blood culture is preferable
Collection Container	Universal (white top) 
Sample collection	• Sample should be collected before antimicrobial therapy started.

	• Disinfect the skin around the cannula entry site, remove cannula using aseptic technique, and cut off 4 cm of the tip into an appropriate CE marked leak proof container using sterile scissors. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	4 days
Limitations	• Cannula should only be sent if there is evidence of infection. • Where line related infection/sepsis suspected, send blood cultures (central and peripheral taken simultaneously), prior to line removal. • Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	NOTE: DO NOT send line tips if they are being removed routinely and infection is NOT suspected.

Neonatal Screen Culture

Investigation	Neonatal Screen Culture
Tests	Culture
Sample type	• Swabs • Gastric aspirate
Collection Container	Transport swab (black top)  Universal container 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	4 days
Limitations	Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	

Parasitology investigation for *Enterobius vermicularis*

Investigation	Microscopy for *Enterobius vermicularis*
Tests	Microscopy
Sample type	• Sellotape slide • Perianal swab.
Collection Container	Laboratory no longer supplies collection kits. • Sellotape slide • Cotton-wool swab in dry container.

Sample collection	**Sellotape slide** Apply clear Sellotape to the perianal region, pressing the adhesive side of the tape firmly against the left and right perianal folds several times; the tape can be wrapped around a tongue depressor to aid specimen collection. Smooth the tape back on the slide, adhesive side down. **Perianal swab** Perianal specimens are best obtained in the morning before bathing or defecation. Three specimens should be taken on consecutive days before pinworm infection is ruled out. Cotton-wool swab in dry container should be used for collection. Spread buttocks apart and rub the moistened cotton wool swab over the area around the anus, but do not insert into the anus. Place cotton wool swab back in its container (no transport medium required). Occasionally, an adult worm may be collected from a patient and sent in saline or water for identification. Specimens should be sent to the laboratory without delay during normal working hours. Outside of normal working hours samples should be refrigerated.
Turnaround Time	6 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	

Pus Culture

Investigation	Pus Culture
Tests	Gram stain, Culture & Sensitivities
Sample type	Pus
Collection Container	Universal (white top) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	None

Respiratory culture

Investigation	**Sample type**
Broncho-alveolar lavage Culture	Broncho-alveolar lavage
Pleural Fluid Culture	Pleural Fluid
Sputum Culture	Sputum
Tests	Gram Stain (where applicable), Culture
Collection Container	Universal (white top)

	 Sputum container 
Sample collection	• Specimens should be fresh and optimally collected before antimicrobial therapy started. • Minimum sample size is preferably 5mL. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated. • Sputum: If fungal culture required e.g., in an immuno-compromised patient, please indicate on request form
Turnaround Time	Sputum: 4days BAL: 5 days Pleural Fluid: 5 days
Limitations	• Delays in transportation may affect the recovery of pathogens. • Any delay may allow overgrowth of Gram-negative bacilli, and *Haemophilus* species and *Streptococcus pneumoniae* may not get isolated.
Out-of-Hours-Testing	No
Additional Comments	• Contact Consultant Microbiologist if *Pneumocystis jirovecii* testing is required. • BAL samples are suitable for overnight refrigeration only, they must not be stored over a weekend.

Staphylococcus and Streptococcus Reference Service (and PVL)

Investigation	Staphylococcus and Streptococcus Reference Service including PVL testing
Tests	Genotyping, Toxin detection, etc.
Sample type	Pure culture
Collection Container	N/A
Sample collection	N/A
Turnaround Time	10-14 days
Limitations	Consultant Microbiologist will decide which isolates need to be sent for further investigation.
Out-of-Hours-Testing	No
Additional Comments	These tests are performed at UKHSA Colindale (BRD) NOTE: Sample will need to be sent for culture and sensitivity before isolate can be sent for PVL testing

Sterile Fluid Culture

Investigation	**Sample type**

Ascitic Fluid Culture	Ascitic Fluid
Joint Fluid Culture	Joint Fluid
Tests	Gram stain and culture, Crystal (Joint fluid)
Collection Container	Universal (white top) (For direct culture and microscopy)  Blood culture bottles (For enrichment culture only) 
Sample collection	• Optimally collected before antimicrobial therapy started. • Samples should be taken using strict aseptic technique by trained medical staff in line with Trust procedure. Ideally a minimum volume of 1ml should be collected. Where adequate, sample can also be inoculated into blood culture bottle set. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated. • Joint Fluid-Ideally a minimum volume of 1ml should be collected. • Ascitic fluid-Where there is adequate sample, inoculate into blood culture bottle set.
Turnaround Time	• Ascitic fluid-4 days, 5 days if sent in Blood Culture bottles • Joint fluid-5 days
Limitations	Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	Please indicate if microscopy for crystals is required.

Swabs for Microscopy, Culture and Sensitivities (M, C &S)

Investigation	**Sample Type**
Ear Swab Culture	Ear swab
Eye swab culture	Eye swab
Mouth swab culture	Mouth swab
Nose swab culture	Nose swab
Throat swab culture	Throat swab
Skin swab culture	Skin swab
Wound swab culture	Wound swab
Ulcer swab culture	Ulcer swab
Tests	Microscopy, Culture & Sensitivity
Collection Container	Transport swab (black top) 
Sample collection	• No special requirements.

	• Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours, samples should be refrigerated.
Turnaround Time	4 days NOTE: Throat swab can take longer if prolonged culture is required in the case of persistent/recurrent sore throats
Limitations	• Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	• DO NOT USE FOR *N. GONORRHOEAE* AND/OR *C. TRACHOMATIS PCR* • DO NOT USE FOR HERPES SIMPLEX PCR • Nasal swabs should NOT be taken for the investigation of *Bordetella pertussis,* see *Bordetella pertussis* above. • Isolation of *Neisseria* spp. from Throat swab is only on request. • Pus sample should be sent in a white topped universal instead of pus swab. • For leg ulcers, only send swabs if there is clear evidence of infection, e.g., spreading erythema around the ulcer, new pus, cellulitis, increasing pain. • Before sampling remove colonising organisms by washing with sterile saline. Use swab to get deep to the ulcer base and under any over-hanging edges. • Provide description of any clinical signs to aid interpretation of results.

Tissue Culture

Investigation	Tissue Culture
Tests	Gram stain, Culture & Sensitivities
Sample type	Tissue
Collection Container	Universal (white top) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	7 days
Limitations	• Please do not send samples in formalin. • Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	

TB Culture (Urine)

Investigation	TB Culture (Urine)
Tests	Culture
Sample type	First-pass early morning urine (from 3 consecutive days)
Collection Container	Universal (60ml wide-mouth, metal top) 
Sample collection	• 3 specimens should be sent from 3 consecutive days. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours specimens should be refrigerated.
Turnaround Time	6 weeks
Limitations	N/A
Out-of-Hours-Testing	No
Additional Comments	NOTE: No microscopy performed on urine TB samples This test is performed at University Hospital Southampton.

TB Culture (Sputum/ BAL/ Tissue/ Pus)

Investigation	TB Microscopy and Culture (Sputum/ BAL/ Tissue/ Pus)
Tests	Microscopy & Culture
Sample type	• Sputum • BAL • Tissue • Pus
Collection Container	Universal (60ml wide-mouth, metal top) 
Sample collection	• Sputum specimens should be collected early morning. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours specimens should be refrigerated.
Turnaround Time	2 days for microscopy 6 weeks for culture
Limitations	N/A
Out-of-Hours-Testing	No
Additional Comments	NOTE: DO NOT send samples in formalin TB culture is performed at University Hospital Southampton.

Urine Culture

Investigation	Urine Culture

Tests	Microscopy & Culture
Sample type	Urine
Collection Container	Green top tube with boric acid.  Container without boric acid  Universal (white top) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	4 days
Limitations	Delays in transportation may affect the recovery of pathogens.
Out-of-Hours-Testing	No
Additional Comments	Please state in clinical details: • Sample type: MSU/ CSU/ SPA/ Bag/ Ileal conduit sample. • Antibiotic use (recent and/or intended): helps with interpretation of results and guides further work up. • For more detail guidance, please refer to: https://www.gov.uk/government/publications/urinary-tract-infection-uti-diagnosis

Urinary Parasitology (Schistosomiasis)

Investigation	Microscopy for *Schistosoma haematobium*
Tests	Microscopy
Sample type	Urine
Collection Container	Universal (white top) 
Sample collection	• Please collect the sample around 10AM – 2PM after 15 minutes of light exercise. • A minimum volume of 10mL is required.
Turnaround Time	5 days
Limitations	In urinary schistosomiasis, very few ova are present in the urine. The number of ova in the urine varies throughout the day, being highest in urine obtained between 10am and 2pm. In patients with haematuria, eggs may be found trapped in the blood and mucus in the terminal portion of the urine specimen. It is therefore preferable to obtain total urine collected over the time period between 10am and 2pm. Alternatively, a 24hr collection of terminal samples of urine may be helpful.
Out-of-Hours-Testing	No
Additional Comments	Sterile containers without boric acid must be used

13.2 Antigen and Molecular tests

16s PCP PCR/ 18s Pan-fungal PCR

Investigation	16s PCP PCR/18s Pan-fungal PCR
Tests	PCR
Sample type	Any (including fixed tissue). Preferably from normally sterile sites.
Collection Container	Universal (white top) 
Sample collection	• Unless stated otherwise in the test table, please send at least 200µL of liquid sample for testing, preferably 500µL to facilitate additional extraction and testing. • Low volume samples may be diluted and tested, but reports will bear a caveat regarding the potential effect on assay sensitivity. • For tissue samples, please send a matchstick head sized piece of the appropriate tissue in a sterile container.
Turnaround Time	10-14 days
Limitations	Sending sufficient sample is imperative when requesting multiple tests.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at Micropathology University of Warwick

Acanthamoeba Detection

Investigation	*Acanthamoeba* detection
Tests	Culture and PCR
Sample type	• Corneal scrape/biopsy • Corneal swabs • Corneal fluids • Contact lenses (to be sent in the lens case).
Collection Container	Sterile plastic bijoux container  Sterile universal container 
Sample collection	• The material from a corneal scrape/biopsy should be collected with a needle or blade and rinsed into a small volume (1-2 mL) of sterile saline/distilled water in a small (<5mL) sterile vial/tube. • Remove blades or needles as soon as possible after rinsing and before sending. • For corneal swabs, do not send dry swabs, please add a small volume (1-2 mL) of sterile saline or sterile distilled water to the swab to prevent drying.
Turnaround Time	10-14 days
Limitations	• Reference laboratory can also perform culture from contact lenses or fluids; isolation from these specimens, whilst suggestive, does not necessarily implicate the amoeba as causing the patient's symptoms.

Out-of-Hours-Testing	No
Additional Comments	This test is performed at London School of Hygiene and Tropical Medicine

Adenovirus PCR

This test is used for the diagnosis of acute disease.

Investigation	Adenovirus PCR
Tests	PCR
Sample type	**DEPENDS ON ADENOVIRUS TARGET TYPE** • EDTA blood sample (quantitative, immunocompromised patients) • Respiratory secretions • Eye swabs • CSF (qualitative) • Faeces • Broncho-alveolar lavage
Collection Container	Purple top blood tube  Viral swabs in viral transport medium  Sterile plastic bijoux container 
Sample collection	• Send a viral (green top or red top) swab of vesicle fluid or affected mucous membranes. Faeces specimen may be passed into a clean, dry, disposable bedpan or similar container and transferred to an appropriate collection container. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	• False negatives may occur for a variety of reasons, for example inappropriate timing of sample collection, inappropriate sample, presence of organism below the detectable limit of the assay. • Towards the limit of detection of an assay sampling variation will result in lower reproducibility. • New and emerging variants may also occur which may not be detected by this assay.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Bristol.

Chlamydia trachomatis Infection

Investigation	Detection of *Chlamydia trachomatis* DNA in urine and genital swabs
Tests	PCR

Sample type	• Urine • Endo-cervical swab • HVS • Vulvo-vaginal swabs. • Eye • Throat • Rectum
Collection Container	Cobas PCR urine tube (Yellow Top)  Universal white top  Cobas PCR female swab kit (Yellow Top) 
Sample collection	• **DO NOT USE CONTAINERS WITH BORIC ACID** • Specimens should be collected and handled following the recommended guidelines on the collection kits. Illustrated collection procedure is provided on the back of the collection kits. • Specimens should be sent to the laboratory without delay during normal working hours.
Turnaround Time	7 days
Limitations	Clinical details are essential for processing.
Out-of-Hours-Testing	No
Additional Comments	• Ensure that the lid of the Cobas PCR tube is securely tightened, to prevent sample from leaking. • The laboratory now screens for *Neisseria gonorrhoeae* for both hospital and community patients. If you do NOT wish to have *N. gonorrhoeae* tested on individual patients, please make this clear on the request form (in the clinical details box). • Chlamydia swabs have TWO separate expiry dates: one for the swab and one for the transport media contained in the pack. Note that the expiry date of the swab may differ by some months to that of the transport media. It is usually the media which has the shorter expiry date. • On the Cobas PCR chlamydia swab, the expiry date can be found at the bottom of the blister pack, below the Lot number on the pack. The date is printed in the reverse order to that we normally use in the UK, i.e., YEAR/ MONTH, so March 2023 would appear as 2023/03. Please return any out-of-date swabs to the Microbiology Laboratory and request replacements as required. NOTE: urine testing for chlamydia in women has been known to produce false results. Please contact the Microbiology Laboratory to discuss before submitting urine samples from women.

Chlamydia trachomatis (LGV)

Lymphogranuloma venereum (LGV) is a sexually transmitted infection caused by a particular strain of *Chlamydia* bacteria.

Investigation	*Chlamydia trachomatis* (LGV)
Tests	PCR
Sample type	• Rectal swab • Throat swab • Vaginal swab • Penile swab.
Collection Container	Cobas transport media 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	Must be *Chlamydia trachomatis* positive and symptomatic.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Colindale (STIRL)

COVID-19 PCR

Investigation	Covid-19 PCR
Tests	PCR
Sample type	• Nose swab • Throat swab • Nasopharyngeal swab
Collection Container	Viral swabs in viral transport medium 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours.
Turnaround Time	1 Day.
Limitations	
Out-of-Hours-Testing	Yes, performed by POCT team.

Cryptococcus Antigen

Investigation	*Cryptococcus* Antigen detection
Tests	Antigen detection
Sample type	• Clotted blood • CSF • Biopsy.

Collection Container	Yellow top (minimum volume 3.5 ml)  Sterile plastic bijoux container  Sterile universal container 
Sample collection	• Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	Only tested on immunocompromised (including HIV positive) patients.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at the UKHSA Bristol

Detection of Viruses in CSF samples

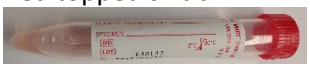
(Standard: HSV, Varicella Zoster, Enterovirus. Children: Parechoviruses and HHV-6)

Investigation	Detection of viruses in CSF samples
Tests	Viral PCR
Sample type	CSF
Collection Container	2 sterile bijoux containers. Send 1st and 3rd samples, appropriately labelled. 
Sample collection	• Dispense CSF (minimum 0.5ml in each bottle) into single use containers and label in order. • Specimens should be sent to the laboratory without delay during normal hours. • Outside of normal hours samples should be placed in the pathology reception and the on-call Microbiology Biomedical Scientist contacted through switchboard.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Send if suspected viral meningitis. • Laboratory may send this sample to reference laboratory if CSF cell count and CSF biochemistry suggests likely viral meningitis.

Full Respiratory Panel (PCR)

(Standard: Influenza A, B, RSV and SARS)

Investigation	Detection of respiratory viruses
Tests	PCR
Sample type	• Nasopharyngeal swab

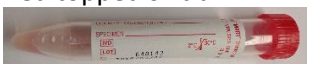
	• Nose and throat swab in VTM
Collection Container	Green topped swab  Red topped swab 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	1-2 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Samples are firstly tested on the Cepheid GeneXpert PCR platform to rule out SARS, RSV, Flu A and Flu B infections. • If the sample is negative for these viruses, Consultant Microbiologist decides whether it needs testing for full respiratory panel on Biofire PCR platform. • Not tested routinely- requested by Consultant Microbiologist

Meningococcal PCR

Investigation	Meningococcal PCR
Tests	DNA detection
Sample type	• Older children/adults: CSF • Young children: EDTA blood
Collection Container	Sterile plastic bijoux container  Purple top (minimum volume 4 ml)  Pink top 
Sample collection	• Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days (Positive result will be phoned earlier)
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • Where a CSF sample is available, this should be sent in addition to an EDTA blood sample. • Clinical details are essential for processing. • This test is performed at UKHSA Manchester (MMMP)

Monkeypox (Mpox) PCR

In the first instance, suspected cases must be discussed with Consultant Microbiologist. Make sure that the request form indicates the risk factors and the reason that Mpox is suspected.

Investigation	Monkeypox PCR
Tests	PCR
Sample type	• Viral swab • EDTA • Throat swab in VTM • Urine.
Collection Container	Green topped swab  Red topped swab  Purple top (minimum volume 4 ml)  Universal (White top) 
Sample collection	• Collect specimens as per normal procedure. Specimens should be double bagged, with the request form in the outer bag. Specimens should be sent to the laboratory without delay.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No.
Additional Comments	• Suspected cases need to be discussed with the Consultant Microbiologist first. • This test is performed at UKHSA Colindale (RIPL).

Mycobacterium tuberculosis TB Fast Track

Investigation	*M. tuberculosis* Fast Track test
Tests	Detection of *M. tuberculosis* complex by molecular amplification techniques
Sample type	• CSF (min 0.5mL Whole CSF) • Wax blocks (for wax blocks, an annotated diagram or slide is required indicating the area where AFB were seen, or testing should be performed from) • Sputum
Collection Container	Sterile plastic bijoux container  Universal (60ml wide-mouth, metal top)

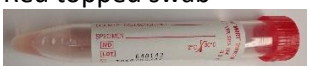
	
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• To be discussed with consultant Microbiologist before being requested. • This test is performed at National Mycobacterium Reference Service (NMRS)

Mycobacterium tuberculosis TB T-SPOT

Investigation	TB (*Mycobacterium tuberculosis*) T-SPOT
Tests	Gamma interferon test
Sample type	X2 Lithium blood
Collection Container	Green top (minimum volume 5 ml) 
Sample collection	Specimens not to be refrigerated. Specimens should be sent to the laboratory without delay. Sample volume: • Patient <2 years old: 2mL • Patient 2-10 years old: 4 mL • Patient >10 years old: 6 mL
Turnaround Time	24-48 hrs
Limitations	• On agreement by Consultant Microbiologist only. • Clinical details are essential for processing. • Monday to Friday ONLY. • Please fill a Revvity Reference Laboratory request form. • Samples must arrive in lab by **16:00** hrs and have been taken that morning.
Out-of-Hours-Testing	No
Additional Comments	• This test is performed at Revvity Reference Laboratory, Oxford.

Mycoplasma genitalium PCR

Investigation	Detection of *Mycoplasma genitalium* rRNA
Tests	PCR
Sample type	• Swab in VTM media • Cobas media • Urine (in green tube or sterile universal container).
Collection Container	Green topped swab

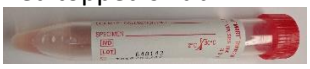
	 Red topped swab  Cobas transport media (swab)  Cobas transport media (for urine)  Universal (White top) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Colindale (BRD)

Parasitology investigation for *Enterobius vermicularis*

Investigation	Microscopy for *Enterobius vermicularis*
Tests	Microscopy
Sample type	• Sellotape slide • Perianal swab.
Collection Container	Laboratory no longer supplies collection kits. • Sellotape slide • Cotton-wool swab in dry container.
Sample collection	**Sellotape slide** Apply clear Sellotape to the perianal region, pressing the adhesive side of the tape firmly against the left and right perianal folds several times; the tape can be wrapped around a tongue depressor to aid specimen collection. Smooth the tape back on the slide, adhesive side down. **Perianal swab** Perianal specimens are best obtained in the morning before bathing or defecation. Three specimens should be taken on consecutive days before pinworm infection is ruled out. Cotton-wool swab in dry container should be used for collection. Spread buttocks apart and rub the moistened cotton wool swab over the area around the anus, but do not insert into the anus. Place cotton wool swab back in its container (no transport medium required). Occasionally, an adult worm may be collected from a patient and sent in saline or water for identification.

	Specimens should be sent to the laboratory without delay during normal working hours. Outside of normal working hours samples should be refrigerated.
Turnaround Time	6 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	

RSV Detection

Investigation	RSV detection
Tests	PCR
Sample type	• Nasopharyngeal aspirate • Viral swab.
Collection Container	Trap bottle  Green topped swab  Red topped swab 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	1 day
Limitations	Clinical details are essential for processing
Out-of-Hours-Testing	No
Additional Comments	

Urine Antigen Tests: Pneumococcal and Legionella

Investigation	Detection of *Legionella pneumophila* serogroup 1 and *Streptococcus pneumoniae* antigen in urine
Tests	Antigen detection
Sample type	Urine
Collection Container	Universal (white top) or  yellow top urine collection tubes  Green top tube with boric acid. 

Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	1 day
Limitations	Please contact Laboratory if urgent processing is required.
Out-of-Hours-Testing	No
Additional Comments	

13.3 Serology and Confirmatory PCR tests

Antenatal (booking blood) Serology

Investigation	• Hepatitis B surface antigen (qualitative) • HIV-1 and 2 antibodies and HIV p24 antigen (qualitative) • *Treponema pallidum* antibody (qualitative)
Tests	Antibody/ Antigen detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	Haemolysis may affect result.
Out-of-Hours-Testing	No
Additional Comments	• Indicate clearly ALL tests required. • Indicate clearly in the clinical details that sample is antenatal screening or booking blood. • Indicate if patient is a 'late booker'.

Anti-streptolysin titre (ASO Titre)

This test is used to determine past or current infection.

Investigation	Anti-streptolysin titre (ASO Titre)
Tests	Toxin Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	7 days
Limitations	• Clinical details are essential for processing.

	• Haemolysis can significantly affect the result.
Out-of-Hours-Testing	No
Additional Comments	None

Avian Precipitins

This test is used to determine past or current infection.

Investigation	Avian antibodies (precipitins)
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	Haemolysis may affect result.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at The Royal Wolverhampton NHS Trust (BCPS).

Beta-glucan

This test is used for the diagnosis of fungal infection and exclusion of fungal infection (if negative).

Investigation	Beta-glucan antigen detection
Tests	Determination of the presence of 1-3 Beta- D- glucan (fungal cell wall antigen) in serum
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	.
Out-of-Hours-Testing	No
Additional Comments	• Sample must be <48 hrs by the time it reaches the reference laboratory and must be a primary sample. • Please note, a BAL sample is not suitable • This test is performed at UKHSA Bristol.

BK Quantitative PCR virus (Renal patients)

This test is used for the diagnosis of acute disease.

Investigation	BK quantitative PCR
Tests	PCR (quantitative)

Sample type	X 2 EDTA blood samples
Collection Container	Purple top (minimum volume 500µl) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Clinical details must state that it is a renal screening, and sample should be sent to QA Hospital Portsmouth. • This test is performed at Queen Alexandra Hospital Portsmouth.

BK Quantitative PCR virus (Non-renal patients)

This test is used for the diagnosis of acute disease.

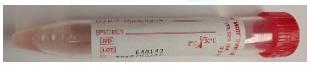
Investigation	BK quantitative PCR
Tests	PCR (quantitative)
Sample type	X 2 EDTA blood samples
Collection Container	Purple top (minimum volume 500µl) 
Sample collection	• No special requirements • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• For non-renal patients or not specified to go to QA Hospital Portsmouth. • This test is performed at UKHSA Bristol.

Bordetella pertussis serology

Investigation	*Bordetella pertussis* serology
Tests	Anti-PT IgG antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.

Turnaround Time	10-14 days
Limitations	• Samples should be taken 2 weeks after onset of paroxysmal coughing. • Pernasal swabs are the most reliable way of making the diagnosis of whooping cough.
Out-of-Hours-Testing	No
Additional Comments	• Pertussis serology is usually more useful in adults presenting with a prolonged cough. • Please state onset date. Vaccination history may help interpretation of results. • This test is performed at UKHSA Bristol.

Bordetella pertussis PCR

Investigation	*Bordetella pertussis* PCR
Tests	PCR
Sample type	• Pernasal charcoal swab • Nasopharyngeal aspirate (NPA) • Throat swab in VTM
Collection Container	Pernasal swab for whooping cough  Viral swabs in viral transport medium  
Sample collection	No special requirement. Specimens should be sent to the laboratory without delay during normal working hours. Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	Please state vaccination history if known. If sample is urgent, check with a Consultant Microbiologist if Biofire PCR testing is required.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at Micropathology University of Warwick

Brucella serology

Investigation	*Brucella* serology
Tests	Antibody detection
Sample type	• Clotted blood • CSF
Collection Container	Yellow top (minimum volume 3.5 ml)  Sterile plastic bijoux container 
Sample collection	• No special requirements.

	• Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10 - 14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Please provide sufficient clinical details. • Please state date of onset, risk factors (including occupation if appropriate), travel abroad over past six months. • This test is processed at Brucella Reference Unit, Liverpool.

CMV Avidity

This test is used to aid differentiation of primary and secondary reactivation of CMV.

Investigation	CMV Avidity
Tests	Enzyme-linked immunosorbent assay (ELISA)
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Must be CMV IgG positive • This test is performed at UKHSA Bristol.

CMV IgG and/or CMV IgM

These tests are used for the diagnosis of acute/recent or reactivated disease (IgM) or if evidence of past infection/exposure required (IgG).

Investigation	CMV IgG and/or CMV IgM
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	6 days
Limitations	
Out-of-Hours-Testing	No

Additional Comments	• Clinical details are essential for processing. Clearly state whether screen or suspected infection. • Please provide sufficient clinical details.

CMV PCR

This test is used for the diagnosis of acute disease. For diagnosis of congenital CMV send neonatal urine sample within first three weeks of life.

Investigation	CMV PCR
Tests	PCR
Sample type	• EDTA blood • CSF • Eye fluid • Sputum • BAL
Collection Container	Purple top (minimum volume 500µl)  Universal (white top) or yellow top (minimum volume 5ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Clinical details are essential for processing. • This test is processed at UKHSA Bristol.

EBV Serology

Investigation	EBV Serology
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	Clinical details are essential for processing

EBV PCR

This test is used for the diagnosis of acute disease.

Investigation	EBV PCR
Tests	PCR
Sample type	EDTA blood
Collection Container	Purple top (minimum volume 4 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	• False negatives may occur for a variety of reasons, for example inappropriate timing of sample collection, inappropriate sample, presence of organism below the detectable limit of the assay. • Towards the limit of detection of an assay sampling variation will result in lower reproducibility. • New and emerging variants may also occur which may not be detected by this assay.
Out-of-Hours-Testing	No
Additional Comments	• Clinical details are essential for processing. • This test is processed at UKHSA Bristol.

Fertility Screening

Investigation	Fertility screening
Tests	• HIV • Hepatitis B core antibody • Hepatitis B Surface antigen • Hepatitis C antibody.
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	This test is processed at UKHSA Bristol.

Functional Antibodies (Pneumococcal IgG, Haemophilus IgG, Tetanus IgG)

Investigation	Functional Antibodies
Tests	• Pneumococcal IgG

	• Haemophilus IgG • Tetanus IgG.
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	None
Out-of-Hours-Testing	No
Additional Comments	This test is performed at The Royal Wolverhampton NHS Trust (BCPS)

Fungal precipitins

Investigation	Fungal precipitins
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Clinical details are essential for processing. • This test is processed at UKHSA Bristol

Haemophilus influenzae Type B Ab

This test measures the amount of anti-Hib IgG immunoglobulin (antibody) in the blood.

Investigation	*Haemophilus influenzae* Type B antibodies
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	

Out-of-Hours-Testing	No
Additional Comments	This test is performed at The Royal Wolverhampton NHS Trust (BCPS)

Hepatitis A Serology

Hepatitis A IgG test is used to screen for hepatitis past infection or immunity. Positive result indicates exposure at some time.
Hepatitis A IgM test is used for the diagnosis of acute Hepatitis A infection (jaundice in adults).

Investigation	Hepatitis A IgM and IgG
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	Clinical details are essential for processing, especially onset date.

Hepatitis A PCR

Investigation	Hepatitis A PCR
Tests	PCR
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Performed on Hepatitis A positive or equivocal samples. • This test is performed at UKHSA Colindale (VRD).

Hepatitis B surface Antibody

This test is used to determine if protective immunity has been achieved following immunisation. Low levels of hepatitis B virus surface antibody may be found in patients who have past infection.

Investigation	Hepatitis B surface antibody detection
Tests	Antibody detection (For post vaccination)
Sample type	Clotted blood

Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	• Accurate interpretation of this result is reliant upon detailed vaccination history and clinical details.
Out-of-Hours-Testing	No
Additional Comments	• Vaccination history is required for full interpretation of result. • Blood should be tested 6-8 weeks after final dose of Hepatitis B vaccination.

Hepatitis B Core Total Antibody

Investigation	Hepatitis B Core Total Antibody detection
Tests	Antibody detection (Acute infection/ evidence of natural immunity)
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	Clinical details are essential for processing

Hepatitis B Surface Antigen

This test is used for the diagnosis of acute or recent hepatitis B or carrier state.

Investigation	Hepatitis B Surface Antigen detection
Tests	Antigen detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5-7 days
Limitations	

Out-of-Hours-Testing	No
Additional Comments	Requests must be clearly indicated.

Hepatitis B e Antigen and Antibody and Hepatitis B core IgM

These tests are used to assess infective risk level in acute and chronic hepatitis B virus infections.

Investigation	• Hepatitis B e Antigen detection • Hepatitis B e Antibody detection • Hepatitis B core IgM detection
Tests	Antibody/antigen detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • Performed on Hepatitis B surface antigen positive and/or Hepatitis B core total antibody positive.

Hepatitis B DNA Viral load

Investigation	Hepatitis B DNA Viral load
Tests	PCR
Sample type	EDTA blood
Collection Container	Purple top (minimum volume 3 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • Performed on Hepatitis B positive samples. This test is performed at UKHSA Bristol.

Hepatitis C Antibody

Marker of infection at some time.

Investigation	Hepatitis C Antibody detection
Tests	Detection of Hepatitis C antibody (qualitative).

Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days Confirmation of positive result: 10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • Confirmation of positive results are sent to UKHSA Bristol.

Hepatitis C PCR Qualitative

Investigation	Hepatitis C PCR Qualitative
Tests	RNA detection by PCR
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • This test is performed at UKHSA Bristol.

Hepatitis C Viral load/Genotype

Investigation	Hepatitis C Genotype
Tests	Genotype detection by PCR
Sample type	2 x EDTA blood
Collection Container	Purple top (minimum volume 4 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	

Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • Patient must be HCV positive with active infection. • This test is performed at UKHSA Bristol.

Hepatitis D (Delta agent)

Investigation	Hepatitis D (Delta agent)
Tests	• Antibody detection • PCR.
Sample type	Clotted sample
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Request must be clearly indicated. • **Sample MUST be Hepatitis B positive.** • This test is performed at UKHSA Colindale (VRD)

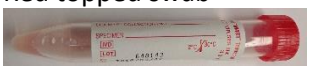
Hepatitis E IgM and IgG

Investigation	Hepatitis E IgM and IgG
Tests	• Antibody detection • PCR.
Sample type	Clotted sample
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	7-10 days if confirmation is required
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Request must be clearly indicated. • ALT needs to be >100Positive samples are sent to UKHSA Colindale (VRD) for PCR testing.

Herpes Simplex Virus 1 and 2 PCR (Qualitative)

For diagnosis of acute disease.

Investigation	Herpes Simplex virus 1 and 2 PCR

Tests	PCR
Sample type	Viral swab
Collection Container	Green topped swab  Red topped swab 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	• False negatives may occur with inappropriate timing of sample collection, inappropriate sample, presence of organism below the detectable limit of the assay.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Bristol.

HIV 1/2 Ab/Ag

Investigation	HIV 1/2 Ab/Ag
Tests	HIV-1 and 2 antibodies and HIV p24 antigen detection(qualitative)
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	4 days (May take longer if confirmation is required).
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests for HIV must be clearly indicated, and the request form signed. • Positive samples are sent to UKHSA Bristol for confirmation.

HIV 1 Pro-Viral DNA

Investigation	HIV Pro-Viral DNA
Tests	DNA detection in Infants <1 year old
Sample type	2 x EDTA blood
Collection Container	Peach Pink top (paediatric EDTA sample tube) 
Sample collection	• No special requirements.

	• Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests for HIV must be clearly indicated, and the request form signed. • SAMPLE MUST BE SENT WITH EDTA SAMPLE FROM HIV POSITIVE MOTHER. • This test is performed at UKHSA Colindale (VRD)

HIV 1 RNA Viral Load

Investigation	HIV 1 RNA Viral Load
Tests	RNA detection in adults and children >1 year old
Sample type	3 x EDTA blood
Collection Container	Purple top (minimum volume 4 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours.
Turnaround Time	1-2 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests for HIV must be clearly indicated, and the request form signed. • Sample MUST be HIV 1 positive.

HIV 1 Genotypic Resistance Test

Investigation	HIV Genotypic Resistance Test
Tests	HIV resistance to anti-retroviral therapy
Sample type	10ml EDTA blood
Collection Container	Purple top (minimum volume 4 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	Request from GUM clinic ONLY.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Birmingham (AVTS).

HIV-2 Viral Load

Investigation	HIV-2 Viral load and HIV-2 Pro-Viral testing
Tests	PCR
Sample type	• 1 x Whole Blood EDTA (4-5mL)
Collection Container	Purple top (minimum volume 4 ml) 
Sample collection	No special requirements.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No.
Additional Comments	This test is performed at UKHSA Birmingham (AVTS)

HTLV-1 & HTLV-2 Ab

Used to determine past or current infection.

Investigation	HTLV-1 and HTLV-2 Ab
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days.
Limitations	
Out-of-Hours-Testing	No.
Additional Comments	This test is performed at UKHSA Bristol.

Human Herpes Virus-6 DNA Quantitative PCR

For diagnosis of HHV-6 infection.

Investigation	Human Herpes Virus-6 DNA Quantitative PCR
Tests	PCR
Sample type	• Clotted sample • EDTA blood
Collection Container	Yellow top (minimum volume 3.5 ml)  Purple top (minimum volume 4 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days

Limitations	• False negatives result may arise due to inappropriate timing of sample collection, inappropriate sample, presence of organism below the detectable limit of the assay.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Colindale (VRD).

Human Herpes Virus-7 DNA Quantitative PCR

For diagnosis of HHV-7 infection.

Investigation	Human Herpes Virus-7 DNA Quantitative PCR
Tests	PCR
Sample type	• EDTA blood • CSF • Serum
Collection Container	Purple top (minimum volume 4 ml)  Yellow top (minimum volume 3.5 ml)  Sterile plastic bijoux container 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	• False negatives may occur due to inappropriate timing of sample collection, inappropriate sample, presence of organism below the detectable limit of the assay.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Colindale (VRD).

Human Herpes Virus-8 DNA Quantitative PCR

For diagnosis of HHV-8 infection.

Investigation	Human Herpes Virus-8 DNA Quantitative PCR
Tests	PCR
Sample type	EDTA blood
Collection Container	Purple top (minimum volume 4 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days

Limitations	• False negatives may occur due to inappropriate timing of sample collection, inappropriate sample, presence of organism below the detectable limit of the assay.
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Colindale (VRD).

Leptospiral serology IgM/Leptospiral PCR

Investigation	• Leptospiral serology IgM • Leptospiral PCR
Tests	• Antibody detection • PCR
Sample type	• Clotted blood • EDTA blood
Collection Container	Yellow top (minimum volume 3.5 ml)  Purple Top (minimum volume 4 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • Please state date of onset, nature of symptoms and exposure history are essential for processing. • This test is sent to UKHSA Colindale (RIPL).

Lyme (Borrelia burgdorferi) IgG and IgM

Investigation	*Borrelia burgdorferi* IgG and IgM
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	4 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • Other samples (e.g., CSF, joint fluid) by arrangement with Consultant Microbiologist only.

	• Reactive results are sent to UKHSA Colindale (RIPL).

Measles Serology IgM

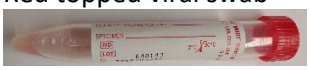
Investigation	Measles Serology IgM
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Bristol.

Measles Serology IgG

Investigation	Measles Serology IgG
Tests	Antibody detection (evidence of immunity).
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • For acute infection contact local Health Protection Unit (HPU) for oral swab test kit

Measles PCR

Investigation	Measles PCR
Tests	PCR
Sample type	• Oral fluid • Throat swabs • NPA • CSF (150µl) • Urine • Tissue.
Collection Container	Green topped viral swab

	 Red topped viral swab  Universal (white top)  Sterile plastic bijoux container 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• NOTE: Contact the laboratory before sending a tissue. • This test is performed at UKHSA Bristol.

Mumps Serology IgG

Investigation	Mumps Serology IgG
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	Requests must be clearly indicated.

Mumps Serology IgM

Investigation	Mumps IgM
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements.

	• Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • For acute infection contact local Health Protection Unit (HPU) for oral swab test kit. • This test is performed at UKHSA Colindale (VRD).

Mumps PCR

Investigation	Mumps PCR
Tests	PCR
Sample type	Mouth/throat swab
Collection Container	Green topped swab  Red topped swab 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Clinical details are essential. • Please state vaccination history. • This test is performed at UKHSA Colindale (VRD).

Non-indigenous mycoses (e.g., *Histoplasma*) serology

Investigation	Non-indigenous mycoses serology
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	

Out-of-Hours-Testing	No
Additional Comments	• Travel history is essential. • This test is performed at UKHSA Bristol.

Parasite disease serology

Various including *Schistosoma*, Amoebic (abscess), *Toxocara*, etc.

Investigation	Serology for various parasites including *Schistosoma*, Amoebas (abscess), *Toxocara*, etc.
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Clinical details including countries visited & dates are essential. • Contact duty Consultant Microbiologist if required. • This test is performed at Health Services Laboratory.

Parvovirus B19 IgG and IgM Serology

Investigation	Parvovirus Serology
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Clinical details are essential for processing. • This test is performed at UKHSA Bristol.

Parvovirus B19 PCR

Investigation	Parvovirus B19 PCR
Tests	PCR
Sample type	• EDTA • Serum.

Collection Container	Purple top (minimum volume 4 ml)  Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Bristol.

Pneumococcal PCR

Investigation	Pneumococcal PCR
Tests	DNA detection
Sample type	EDTA blood and/or CSF
Collection Container	Purple top for blood (minimum volume 4 ml)  Sterile plastic bijoux container 
Sample collection	• Dispense CSF (minimum 0.5ml in each bottle) into single use containers and label in order. • Specimen should be sent to the laboratory during normal hours. • Outside of normal hours samples should be placed in the pathology reception and the on-call Microbiology Biomedical Scientist contacted through switchboard. • No special requirements for EDTA samples.
Turnaround Time	10-14 days (positive result will be phoned earlier).
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Requests must be clearly indicated. • This test is performed at UKHSA Manchester (MMMP)

Pneumococcal Serology

Investigation	*Streptococcus pneumoniae* antibody detection
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours.

	• Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	This test is performed at UKHSA Manchester (MMMP)

Rabies Serology

Investigation	Rabies antibody detection
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	This test is performed at Animal and Plant Health Agency Rabies Laboratory, Weybridge

Rubella Serology

Investigation	Rubella Serology IgG/IgM
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	Clinical details are essential for processing.

Schistosoma Serology

Investigation	Schistosoma antibody detection
Tests	Antibody detection
Sample type	Clotted blood

Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No specimen requirements. • Specimens should be sent to the laboratory during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Please state travel history or other relevant clinical details. • This test is performed at Health Services Laboratory.

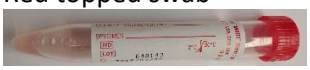
Syphilis Serology

Investigation	Syphilis antibody detection.
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	4 days, longer if the sample is positive and needs sending to the reference laboratory for confirmation.
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Clinical details are essential for processing. • Positive in-house samples are sent to UKHSA Bristol

Syphilis IgM, RPR, TPPA, alternative EIA and Immunoblots

Investigation	Syphilis IgM, RPR, TPPA, alternative EIA and Immunoblots
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5-7 days (Longer if sample needs to be sent to Reference Laboratory).
Limitations	
Out-of-Hours-Testing	No
Additional Comments	If sample is positive, it is sent to UKHSA Bristol .

Syphilis PCR

Investigation	Syphilis PCR
Tests	Detection of *Treponema pallidum* DNA
Sample type	Swab in viral transport media
Collection Container	Green topped swab  Red topped swab 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days
Limitations	
Out-of-Hours-Testing	No
Additional Comments	This test is performed at PHE Colindale (STIRL).

Toxoplasma gondii Serology

Investigation	*Toxoplasma gondii* antibody detection
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days, longer if confirmation of positive result is required.
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Clinical details are essential for processing. • Confirmation of positive results sent to PHW Swansea.

Tropical Disease Serology (Regional Travel Screen)

Various including Dengue, Q fever, Nile, Rickettsia, Zika virus, Viral haemorrhagic fevers, etc.

Investigation	Tropical disease (e.g., Dengue, VHF, etc.) antibody detection
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours.

	• Outside of normal working hours samples should be refrigerated.
Turnaround Time	7-14 days
Limitations	Vaccinations & antibiotics given may affect test results.
Out-of-Hours-Testing	No
Additional Comments	• Clinical details including countries visited & dates are essential. • Contact duty Consultant Microbiologist if required. • This test is performed at UKHSA Colindale (RIPL).

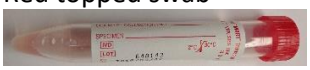
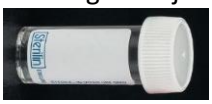
Varicella zoster Serology (Chickenpox)

This test is used to determine past chickenpox infection (or vaccination). It indicates immunity.

Investigation	*Varicella zoster* IgG antibody detection.
Tests	Antibody detection
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	5 days normal 1 day (urgent)
Limitations	Please contact Laboratory if urgent processing is required. Please state date of contact.
Out-of-Hours-Testing	Saturday/ Sunday/ Bank Holiday morning (by arrangement only).
Additional Comments	• When requesting *Varicella zoster* antibody following contact with chickenpox in both pregnant women and immunocompromised patients it is essential that the date the patient was in contact with the chickenpox case is stated in the clinical details as well as the onset date of the chickenpox case's rash as these are used to assess the value of *Varicella Zoster* Immunoglobulin (VZIG) in every case. • Please contact the laboratory in such cases so that the samples can be tested urgently on arrival. This is particularly important on Fridays, weekends, and Bank Holidays when staffing is reduced. Please include contact number (bleep or extension) so the result could be telephoned through to the clinician. • For non-immune contacts, VZIG is only available if the result is known less than 10 days after contact, otherwise other therapeutic options may be required.

Varicella zoster PCR

Investigation	Detection of *Varicella zoster* DNA
Tests	PCR
Sample type	• Viral swab • CSF • Whole EDTA

Collection Container	Green topped swab  Red topped swab  Sterile glass bijoux container  Purple top (minimum volume 4 ml) 
Sample collection	• For screening, swab should be taken from the affected site. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	10-14 days.
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Please provide sufficient and relevant clinical details (e.g., vesicular rash, shingles). • This test is performed at UKHSA Bristol.

13.4 Antibiotic assays

Gentamicin Levels

Investigation	Gentamicin Level
Tests	Antibiotic assay
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	1 day
Limitations	
Out-of-Hours-Testing	Yes (must be arranged with on call biomedical scientist in **Laboratory Medicine**).
Additional Comments	• Timing of sample, and drug dose and timing regimen essential for interpretation of result • Refer to gentamicin guidelines on Eolas • Please use a green biochemistry request form. • This test is performed in Laboratory Medicine at Salisbury NHSFT

Tobramycin Levels

Investigation	Tobramycin Levels
Tests	Antibiotic assay
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	2-3 days for verbal result, 7 – 10 days for electronic report.
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Timing of sample, and drug dose and timing regimen essential for interpretation of result. • Please make sure that you complete the request form fully and provide dosing details. • Please use a black microbiology request form • This test is performed at UKHSA Bristol Antimicrobial Reference Laboratory

Amikacin Levels

Investigation	Amikacin Levels
Tests	Antibiotic assay
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	2-3 days for verbal result 7 – 10 days for electronic report.
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Timing of sample, and drug dose and timing regimen essential for interpretation of result. • Please make sure that you complete the request form fully and provide dosing details. • Please use a black microbiology request form. • This test is performed at UKHSA Bristol Antimicrobial Reference Laboratory

Vancomycin Levels

(Pre dose only unless requested by Microbiologist)

Investigation	Vancomycin Levels
Tests	Antibiotic assay
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	1 day
Limitations	
Out-of-Hours-Testing	Yes - during daytime at weekends. **(Must be arranged with on call biomedical scientist in Laboratory Medicine).**
Additional Comments	• Timing of sample, and drug dose and timing regimen essential for interpretation of result. • Refer to vancomycin guidelines on Eolas. • Please use a green biochemistry request form • This test is performed in Laboratory Medicine at Salisbury NHSFT

Teicoplanin level

(Pre dose only as advised by Microbiologist)

Investigation	Teicoplanin level
Tests	Antibiotic assay
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	2-3 days for verbal result, 7 – 10 days for electronic report
Limitations	
Out-of-Hours-Testing	No – unless agreed before the weekend with Consultant Microbiologist
Additional Comments	• Timing of sample, and drug dose and timing regimen essential for interpretation of result. • Please make sure that you complete the request form fully and provide dosing details. • Please use a black microbiology request form. • This test is performed at UKHSA Bristol Antimicrobial Reference Laboratory.

Other antibiotic level, e.g., Co-trimoxazole

Investigation	Other antibiotic level, e.g., Co-trimoxazole
Tests	Antibiotic assay
Sample type	Clotted blood
Collection Container	Yellow top (minimum volume 3.5 ml) 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	2-3 days for verbal result, 7 – 10 days for electronic report
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Timing of sample, and drug dose and timing regimen essential for interpretation of result • Pre-arrangement with Consultant Microbiologist ONLY. • Please make sure that you complete the request form fully and provide dosing details. • This test is performed at UKHSA Bristol Antimicrobial Reference Laboratory.

Anti-Fungal drug level

Investigation	Anti-fungal drug level
Tests	Anti-fungal assay
Sample type	Red top serum tube (Non-separator)
Collection Container	Red top 
Sample collection	• No special requirements. • Specimens should be sent to the laboratory without delay during normal working hours. • Outside of normal working hours samples should be refrigerated.
Turnaround Time	2-3 days for verbal result, 7 – 10 days for electronic report.
Limitations	
Out-of-Hours-Testing	No
Additional Comments	• Timing of sample, and drug dose and timing regimen essential for interpretation of result. • Pre-arrangement with Consultant Microbiologist ONLY. • Please make sure that you complete the request form fully and provide dosing details. • Please use a black microbiology request form. • These tests are done at UKHSA Bristol Antimicrobial Reference Laboratory.

13.5 Family Planning

Sub-fertility semen analysis

Semen analysis is the microscopic examination of the semen to see how many sperm cells there are and whether they function correctly.

Investigation	Sub-fertility semen (Andrology)
Tests	Microscopy (analysis of cells and cell count)
Sample type	Semen sample
Collection Container	Universal (Non-Toxic specimen container - contact laboratory)
Sample collection	• The sample needs to be collected in the morning. Patient must abstain from sexual activity for 48 hours (but no longer than 7 days) before collecting the sample. • Sample should be collected into the provided container (it can be collected from GP or fertility specialist). • Sample should be collected by masturbation and the entire specimen should be collected into the container. • DO NOT use a sheath or condom for collection as they are harmful to sperm. • After the collection, please keep the sample close to the body whilst travelling as sperm is sensitive to temperature changes. • To ensure the test results will be accurate, aim to deliver the sample within 1 hour of its production.
Turnaround Time	7 days
Limitations	Samples by appointment only (patient to contact laboratory). Fresh sample taken on day of submission. To arrive within 1 hour of being taken.
Out-of-Hours-Testing	No
Additional Comments	Please note: Patient leaflets with instructions on how to take samples for Sub-fertility (Semen analysis) samples are available on the Salisbury NHS Foundation Trust MICROGUIDE web site at: Diagnostic Semen Analysis (Male Fertility Testing) (Eolas) The department runs a weekly andrology clinic on Wednesday mornings. There are 6 appointment slots available per week except for days where bank holidays occur. Please ring the laboratory on extension 4099 or 4105 to make an appointment prior to sample collection. Patients providing semen samples for Fertility assessment attend with their samples and complete a questionnaire to ensure the Andrology service complies with UKAS quality requirements. Please notify the laboratory if you are unable to attend your appointment so that the appointment slot can be offered to other patients where possible. Please ensure that patients attending for Fertility tests are provided with a completed black Microbiology form PLUS a suitable non-toxic wide-mouthed sterile container to permit the complete semen sample to be captured by the patient. The laboratory provides assembled “collection packs” for Fertility patients which are available at all surgeries/ clinics. If

	replacement packs are required, please ring (01722) 429105 to request replacements. **We advise that the requesting clinician goes through the process with the patient at the time the form and container are supplied to ensure the patient understands when and how to collect the sample.** This will help to ensure complete semen sample collection and therefore improve the accuracy of the test. Samples received in alternative containers to the issued sterile non-toxin containers will **NOT** be processed. Fertility is a multi-factorial state and it is advised that the semen test result should be read whilst taking into account other physical and physiological factors affecting a couple's fertility.

Post vasectomy semen analysis

Post-vasectomy semen analysis is the test done by the laboratory to confirm that "No sperms are seen", however, this test does NOT exclude presence of a very small number of sperms in the sample provided.

Investigation	Post vasectomy semen analysis
Test	Microscopy
Sample type	Semen sample
Collection Container	Universal (Non-Toxic specimen container-contact laboratory)
Sample collection	• The sample needs to be collected in the morning. Patient must abstain from sexual activity for 48 hours (but no longer than 7 days) before collecting the sample. • Sample should be collected into the provided container (it can be collected from GP). • Sample should be collected by masturbation and the entire specimen should be collected into the container. • DO NOT use a sheath or condom for collection as they are harmful to sperm. • After the collection, please keep the sample close to the body whilst travelling.
Turnaround Time	3-4 days
Limitations	Fresh sample taken on day of submission. To arrive in Lab between 09:00 and 12:00
Out-of-Hours Testing	No
Additional Comments	**Post vasectomy** samples can by submitted any weekday (Monday – Friday) except bank holidays. Patients are asked to bring their samples to the pathology reception desk on level 3. No appointment is required. Please note: Patient leaflets with instructions on how to take samples for post-vasectomy samples are available on the Salisbury NHS Foundation Trust MICROGUIDE web site at: post-vasectomy-for-printing-april-2020.docx (live.com) Please ensure that patients attending for post-vasectomy testing are provided with a completed black Microbiology form PLUS a suitable non-toxic wide-mouthed sterile container to permit the complete semen sample to be captured by the patient. **We advise that the requesting clinician goes through the process with the patient at the time the form and container are supplied to ensure the patient understands when and how to collect the sample.** This will help to

	ensure complete semen sample collection and therefore improve the accuracy of the test.

14. Point of Care Testing (POCT)

Our Microbiology Department offers Point of Care Testing from 8PM to 6AM every night. POCT team performs SARS-CoV-2, Flu and RSV testing. They are located on level 3, opposite the Accident and Emergency Department.

POCT team uses the Xpert Xpress SARS-CoV-2/Flu/RSV test, which is an automated *in vitro* diagnostic test for the qualitative detection and differentiation of RNA from Flu A, Flu B, RSV and SARS-CoV-2 virus. The assay is performed on the GeneXpert instrument system which performs sample preparation, nucleic acid extraction, amplification, and detection of target sequences in simple or complex samples using real time polymerase chain reaction (RT-PCR) assays.

The assay is suitable for detection of viruses from nasopharyngeal swabs, nasal swabs, or nasal wash/aspirate specimens.

All negative results are phoned to wards and positive results are phoned to the Site Manager.

15. Patient Consent Disclosure

15.1 Laboratory policy on protection of personal information

The Microbiology Department regards the lawful and correct treatment of patients' personal information as vital to maintaining the confidence of users of the service. Our policy is that we will adhere to the principles of data protection described in the Data Protection Act 1998 part 1, 3 (9).

As part of the Salisbury District Hospital NHS Foundation Trust, we also work to its governance and data protection policies.

15.2 Patient consent

All samples need to have patients consent, therefore all requests for investigations must include the requesting physician's signature on the request form. All unsigned forms may be returned to the requestor before testing is commenced.

The laboratory does not seek to confirm that informed consent has been obtained for any specimen that is sent for analysis. It is the responsibility of referring clinicians to ensure appropriate consent has been obtained. Requesting a specific test implies patient consent has been obtained. Where this is impossible, testing should only take place when it is in the best interests of the patient. The General Medical Council provides guidance which should be consulted on this issue.

15.3 Medico-legal samples

Any specimen submitted for medico-legal purposes should have documentation accompanying these specimens to provide an unbroken chain of evidence.

For further guidance on handling medicolegal samples and preserving the chain of evidence please refer to this website: New guidance for handling medicolegal samples and preserving the chain of evidence (rcpath.org)

15.4 The Human Tissue Act

Salisbury District Hospital NHS Foundation Trust are licensed by the Human Tissue Act (HTA) to undertake examinations of post-mortem samples submitted by clinical consultants and pathologists. Under the license, the samples may be retained until the examination has been completed and in line with the sample retention policies. It is the obligation of the requesting clinician or pathologist to ensure that examination of samples they submit have been requested by the coroner or appropriate consent has been obtained from the deceased person or their relatives. Only the specific examinations requested by the sending clinician or pathologist may be performed.

If additional work on samples from the deceased is thought necessary by the medical microbiologist or virologist, they must obtain written confirmation of consent from the sending departments. All relevant material is stored securely and under conditions which maintain the integrity of the sample if possible and confidentiality is maintained in compliance with Caldicott principles, as are all samples received. Following processing, relevant material is only retained for the period of time specified by the retention policy.

For further information please refer to Human Tissue Act 2004:
Human Tissue Act 2004 (legislation.gov.uk)

16 Feedback on our microbiology service and complaints procedure

The laboratory is committed to providing a high-quality service to all service users; however, it understands that aspects of the service may not always meet the requirements of the customer. Should this occur and there be a requirement to give feedback or make a complaint to the laboratory please submit your feedback or complaint in writing to the following:

Lee Phillips **Head of Pathology**	lee.phillips@nhs.net
Joanne Harris **Microbiology Laboratory Manager**	joanne.harris7@nhs.net
Patient Advice Liaison Services (PALS)	sft.pals@nhs.net

17 Associated Documents

- Trust Specimen Transportation Policy
- Infection control policy
- Pneumatic Air Tube Guidance, Salisbury NHS Foundation Trust, Version 2.0, 2024.

18 Appendix

Appendix 1- HSE Safety Notice

Risk of exposure of laboratory staff to biological agents due to missing clinical information

Workers at diagnostic laboratories are being put at risk of infection because of missing information on specimen request forms. If specimen request forms do not provide sufficient clinical information, then lab staff cannot identify the appropriate safety measures they need to apply to control exposure and possible infection.

Anyone who completes a specimen request form, like clinicians, nurses, GPs or vets, should include all information that can help lab staff assess potential risks.

The following information is needed to identify risks:

- recent travel history
- consumption of unpasteurised milk or cheese products
- contact with imported animals (in particular dogs from Eastern Europe)
- association with an outbreak scenario
- other relevant clinical symptoms or information

Ensure that specimen request forms contain all relevant clinical information.

Read the safety notice on the risk of exposure to biological agents for full details