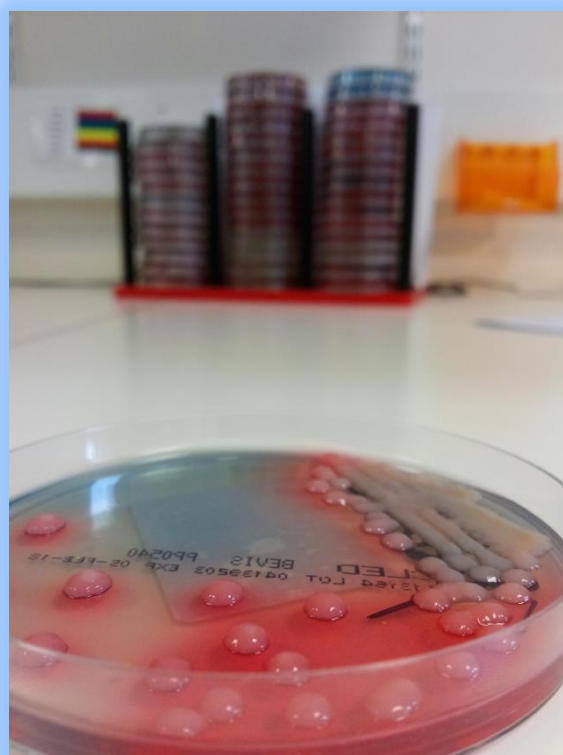


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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page1 of 66

Microbiology Department

Based at: James Cook University Hospital



User Manual

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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page2 of 66

Table of Contents



Table of Contents	2
1. Introduction	4
2. Location	6
3. Useful Contacts	9
4. Opening Hours	10
5. Specimen Requests	11
5.1 High Risk Specimens.....	12
6. Collection and Transport of Bacteriology Samples	14
6.1 Urine Samples	16
6.2 Vaginal and Penile Swabs	18
6.3 Faeces Samples	21
6.4 Sputum Samples/Bronchoalveolar Lavage / cough swabs.....	22
6.5 Blood Cultures.....	24
6.6 ENT Swabs	28
6.7 Corneal Scrape	31
6.8 Wound and Pus swabs.....	32
6.9 Skin Scrapings	33
6.10 Hair Samples	34

The master copy and approval record for this document is contained within QPulse. If printed, this is a controlled document ONLY if printed in colour and shown within the QPulse distribution list.

	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page3 of 66

6.11	Nail Scrapings	35
6.12	Cerebrospinal Fluid (CSF)	36
6.13	Tissue Samples.....	38
6.14	Ascitic Fluid	39
6.15	Pleural Fluid	40
6.16	Synovial Fluid	41
6.17	MRSA Swabs	42
6.18	Line Tips	44
7.	Acceptance of Specimens	46
8.	Testing of Bacteriology Samples	48
8.1	Urine.....	48
8.1.1	Urine Culture	48
8.1.2	Urine Parasites.....	49
8.1.3	Urine Mycobacteria	49
8.2	Vaginal and Penile Swabs	50
8.3	Faeces.....	51
8.3.1	Faeces PCR	51
8.3.2	Faeces – <i>Clostridium difficile</i>	52
8.3.3	Faeces Parasites.....	53
8.4	Sputum Samples/Bronchoalveolar Lavage	54
8.4.1	Sputum Culture	54
8.4.2	Mycobacteria	55
8.5	Blood Cultures.....	56

The master copy and approval record for this document is contained within QPulse. If printed, this is a controlled document ONLY if printed in colour and shown within the QPulse distribution list.

 	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page4 of 66

Bacterial Culture 56

8.6 Swab Testing..... 57

8.7 Corneal Scrapes..... 57

8.8 Skin, hair and nail Scrapings for fungal culture..... 58

8.9 Cerebrospinal Fluid Samples (CSF) 58

8.10 Tissue, ascitic, pleural, synovial or any fluids Samples 59

8.11 MRSA Testing Samples 59

8.12 Line Tips 60

9. Reporting of Results 61

All results are reported via the Pathology LIMS system which feeds into the WebICE system. 61

Additional Test Requesting..... 61



10. Minimum Re-Test Interval..... 64

1. Introduction

The pathology department at South Tees Hospitals NHS Foundation Trust provides laboratory services at the James Cook site for a wide variety of service users, including local and regional hospitals, local GP surgeries and local employers. The Department also hosts the North Tees Microbiology service. The laboratory is inspected and accredited by UKAS to demonstrate that the specific activities performed by the laboratory meet the criteria set out in the standard.

At James Cook, the Microbiology department is split into Bacteriology (encompassing both North and South Tees) and Virology. Bacteriology is responsible for the

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 	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page5 of 66



culturing, isolation and identification of micro-organisms obtained from various parts of the body using several specimen types including swabs, faeces, urine samples, respiratory specimens, blood, and cerebrospinal fluid.

Virology is responsible for the detection of viral infections, immunity investigations, toxin detection and outbreak monitoring. In Virology, different techniques are used to perform investigations and confirmation testing on a range of clinical samples. For more information on the Virology Services provided see the virology user guide. The Virology Department also acts as a referral lab for the Serology/Virology samples originating from North Tees.

This manual provides information about how users can access our service, who to contact for advice, which tests are performed, sample requirements and turnaround times. This information is accurate at the time of issue and is reviewed and updated regularly to incorporate new developments.

If you find any errors within this document or would like to make any comments or suggestions for improvement, please contact elaine.watson4@nhs.net
If patients are using this guide, please note that any information provided should not be used for self-diagnosis and if you have any concerns about your health, please contact your GP.

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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page6 of 66

2. Location



Microbiology Department for both North and South Tees Hospitals are situated at the James Cook University Hospital, Marton Rd.

Microbiology Department
James Cook University Hospital
Marton Road
Middlesbrough
TS4 3BW

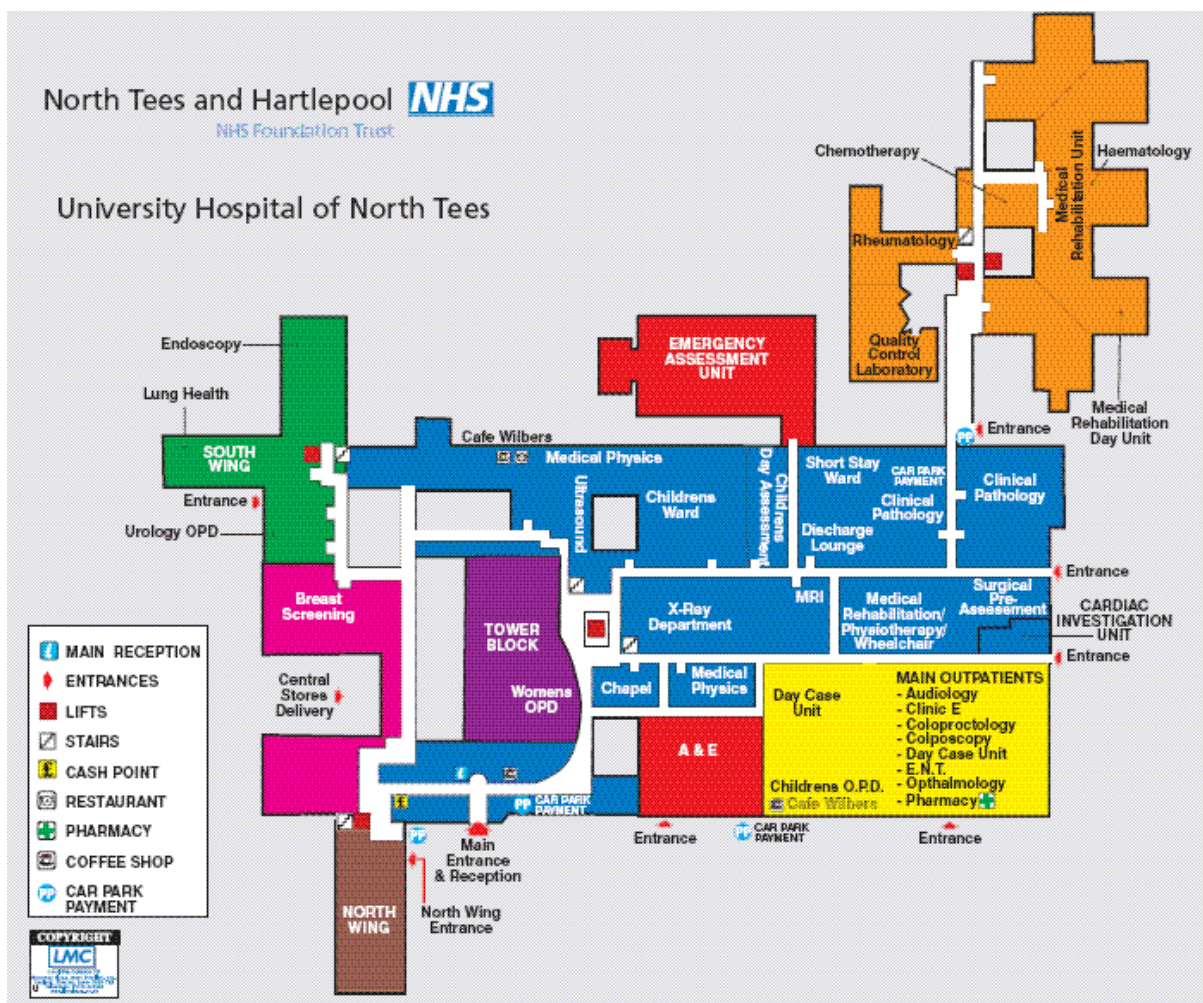


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Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page8 of 66

For Clinical samples originating from the departments within North Tees and Hartlepool trust, GP Practices and other service users, these samples are collected and delivered to the North Tees Central Reception located just off the Main corridor in-between the cardiac investigation unit and the elderly care entrances. Where these samples are sorted and packaged and delivered to South Tees on a 2 hourly basis by the Pathology Transport.



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	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page9 of 66

3. Useful Contacts

During Core Working Hours.

<u>Name</u>	<u>Job Title</u>	<u>Contact Details</u>
Elaine Watson	Bacteriology Lead Biomedical Scientist	Ext 55947 elaine.watson4@nhs.net
Sandra Gittins	Virology Lead Biomedical Scientist	Ext 55932 sandra.Gittins1@nhs.net
Wilfred Nyoni	Microbiology Operational Lead	Ext wilfred.nyoni3@nhs.net
Ann Wallis	Pathology Quality Manager	Ext 55239 ann.Wallis1@nhs.net
For Clinical Advice	Microbiology Secretaries South Tees	01642 282604 direct Ext 52604
	Microbiology Secretaries North Tees	01642 617617 Ext 24423
Bacteriology Laboratory		01642 282 606 direct Ext 52606
Virol Laboratory		01642 854 289 direct Ext 52489
Pathology Main Reception		Ext 54385

For Technical Advice Please Contact the Laboratories at South Tees Available 24/7.



For Clinical Advice During Core Working Hours:

For patients Covered by North Tees Contact the Microbiology Secretaries based at North Tees.

For Patients Covered by South Tees Contact the Microbiology Secretaries Based at South Tees.

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 	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page10 of 66

Outside for these hours please contact the Switchboard and ask for the on-call Microbiologist.

North Tees Switchboard 01642 617 617 (0 internally)

South Tees Switchboard 01642 850 850 (0 internally)

4. Opening Hours

The Bacteriology Laboratory operates **24-hour shift system 7 days a week** for both North and South Tees Hospitals. Out of core hours technical staff can be contacted by phoning the laboratory via switchboard on:



01642 850850 Ext 52606

The Virology department operates **Monday to Friday 9-5 and Saturday and Sunday 9-12**. They can be reached on:

01642 854289

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page11 of 66

5. Specimen Requests

All requests for Microbiology investigations must be made by, or on behalf of, a registered medical practitioner, a recognised nurse practitioner or similar, to whom the results will be sent (see below for patient detail requirements). Requests signed by an authorised person (e.g. practice nurse) on behalf of a practitioner are acceptable as long as the origin is stated clearly, and the request is fully completed (including relevant clinical details).

If possible, requests should be made using the electronic WebICE system, which limits errors in patient identification and speeds up workflow in the laboratory. When making a request please ensure that all the relevant patient identification, clinical details and locations are provided, including the name of the requesting physician. Contact information must be supplied when an urgent request is made. A request form must accompany all specimens sent to the laboratory.

All Request forms must clearly state the following information:



Patient Name and Address



Date of Birth or Age



NHS number / hospital number



Patient Gender



Relevant clinical details including recent foreign travel.



GP practice code – which will be where the result is returned.



Type of specimen



Date and time of taking the specimen, include who took it.




Risk Status



Any relevant epidemiological information

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	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page12 of 66



Any systemic antibiotics that the patient is taking.



Any foreign travel, which is prompted via WEBICE requesting.

It is the responsibility of the requesting person to ensure that request forms are filled out with the adequate information. Failure to do so may result in rejection of the sample.

The specimen container must also be clearly labelled with a self-adhesive sticker and contain the patients full name, date of birth, and / or hospital number. The information on the specimen must directly link with the information on the request form.

Please ensure that all specimen containers are filled with the correct/adequate volume of sample.



For most routine laboratory procedures, consent can be inferred when the patient presents himself/herself at a laboratory, or other suitable primary or secondary care setting, with a request form and willingly submits to the usual collecting procedure.

PLEASE NOTE: If any additional requests are required after the specimen has been sent, please call the laboratory within **2 days**, and **send a request form for the additional tests requested**. The additional laboratory request form must be received in the laboratory prior to the test being carried out.

5.1 High Risk Specimens

Any specimens that are known, or suspected, to be high risk must be clearly labelled with a danger of infection sticker.

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page13 of 66



Medical officers responsible for the care of patients have a duty of care towards other members of staff, therefore all specimens from patients who are known to have or strongly suspected of having the conditions listed below must be identified by adding a Danger of Infection label to the specimen container and the laboratory request form:



HIV



Hepatitis B & C



Viral haemorrhagic fever (VHF) of any type

Microorganisms, (biological agents) in Hazard Group 3 or 4 e.g. TB, *Brucella*, *Salmonella typhi/paratyphi*, Transmissible Spongiform Encephalopathy (TSE)




Pyrexia of unknown origin (PUO) recently returned from Africa.

Medical officers should also ensure that appropriate information including relevant travel history is provided in order to alert laboratory staff to potential dangers. Clinical details supplied on specimen request forms must contain clear information regarding the nature of the test being requested and sufficient detail to inform laboratory staff upon the safety precautions they need to take in order to process the specimen without risk of infection.

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	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page14 of 66

If, during patient intervention, further information becomes available that has implications for the safety of laboratory staff this must be communicated immediately to the laboratory so that appropriate steps regarding containment can be taken.

6. Collection and Transport of Bacteriology Samples


It is the responsibility of the person taking the sample to ensure that the container used is the appropriate one for the purpose and sterile, is properly closed, and is not externally contaminated by the contents. Specimens in non-approved containers will not be accepted.

Specimens must be placed in the transparent plastic transport bags as soon as they have been labelled, with the attached request form. There must only be one specimen per bag. The transport bag must be sealed using the integral sealing strip and must not be sealed with pins, staples, metal clips etc.

Within the hospital, specimens must be transported in either deep-sided boxes of a smooth impervious material which must not be over-filled, or in specialised carrier pods for the pneumatic tube system. Any specimen transport box or pod must not be used for any purpose other than carrying specimens. The boxes must be cleaned and disinfected each week and whenever contaminated. For urgent samples, ward staff are required to arrange delivery to the laboratory. Specimens must first be placed in the plastic specimen bags together with the completed request form.

The transport of samples from GP surgeries or other primary care locations is carried out by staff that will collect all samples from dedicated collection points. Samples originating GP practices covering the North Tees and Hartlepool areas, are serviced via the pathology transport system, and are transferred from the North Tees

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	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page15 of 66

Pathology reception to South Tees for analysis using dedicated 2 hourly pathology transport (this operates 24/7)



Transport for infectious substances by Royal Mail is subject to carriage of dangerous goods regulations 2004 and requires transport and packaging conforming to P650 Packaging.

Patients are able to carry their own specimens via their own or public transport, to the laboratory.

When specimens are transported to the laboratory, efforts should be made to avoid delays. This reduces the risk of samples being lost and of their contents becoming degraded. In addition, storing of specimens on wards after they have been taken should be avoided. This reduces the risk that the specimen may become damaged and its contents released, which could be a potential infectious hazard.

See individual specimen sections for the testing that is carried out on each sample type.

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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page16 of 66

6.1 Urine Samples

Information

Contaminating bacteria from the external genitalia may give rise to misleading results and therefore, we can only accept the following specimens for routine culture:



Catheter or cystoscopy specimens (please note that catheter tips will not be processed as they do not provide helpful microbiological information)



Mid-stream urine specimens



Supra-pubic aspirates

Mycobacterium tuberculosis testing can only be performed if there is a high white cell count in the urine. If so, 3 x 20ml white/yellow topped sterile containers should be used to collect early morning urine on three consecutive days to be tested for TB.

For **Schistosomiasis** and other parasite testing, using a white/yellow topped sterile container collect a urine sample between 10am – 2pm, which is when the concentration of eggs is at its highest. In a Light exercise should be done before the urine sample is taken e.g. running up a flight of stairs and the volume of urine collected should always be recorded so that an accurate concentration of eggs can be calculated.

Collection

If the patient is able to collect urine without assistance from the nursing staff, they should be instructed as follows:

Females

1. Separate the labia with cotton wool or sponge moistured with water (disinfectant MUST not be used)
2. Wipe the vulva from front to back

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	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page17 of 66

3. With the labia still separated, allow some urine to pass into the toilet
4. Without stopping, allow urine to pass into a sterile red-topped borate container (as seen in container section) and fill to the line
5. Pass remaining urine into the toilet

Males

1. Clean the penis with soap and water.
2. Commence urination and allow a few millilitres to pass into the toilet.
3. Without stopping, allow urine to pass into sterile, red-topped borate container (as seen in container section) and fill to line
4. Pass remaining urine into toilet.

In elderly or very ill patients, nursing assistance may be required. Ensure that there is minimal chance for contamination of the sample. Specimens showing signs of contamination e.g. with faecal matter, are of no value and will not be cultured.



Catheter Urines

1. Disinfect the catheter specimen port using an alcohol wipe.
2. Clamp tubing below the sampling cuff
3. Clean the sampling cuff with alcohol wipe.
4. Aspirate urine using a syringe and transfer to a sterile boric acid container.
5. Unclamp the tubing.

Container



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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page18 of 66

Use red-topped universal containers that contain boric acid for bacterial culture and microscopy. Paediatric/small volume urines (less than 10ml) should be sent in 7ml red-topped sterile universals with boric acid. If unable to obtain 5ml or more of urine, the accuracy results may be affected due to insufficient dilution of the borate crystals – collect the urine in a white/yellow topped sterile universal container N.B. this type of sample needs to be at the laboratory within 2 hours of collection.

For *Chlamydia* testing and **MRSA** testing, use a white/yellow topped sterile universal container sterile universal bottle (no boric acid) and fill to the line indicated on the label, not to the brim of the container.

Transport

Specimens should reach the laboratory without delay, with a maximum time between sample collection and arrival in the laboratory of 48 hours, to ensure accurate results. If there is a delay in the specimen reaching the laboratory, ensure specimens are refrigerated.

6.2 Vaginal and Penile Swabs

Information



Be sure to obtain a representative sample.





Label the specimen carefully.



On the request form, please give all relevant history, especially of current or recent antimicrobial treatment. Please specify:

- Post-operative
- Age
- Post-natal <6wks

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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page19 of 66

- Miscarriage
- Pregnancy
- Toxic shock syndrome
- Abscess
- PID
- Fever

High vaginal swabs are unsuitable for the diagnosis of gonorrhoea or pelvic inflammatory disease.

Collection

1. Cervical swab:
 - a. Collect endocervical sample by speculum examination.
 - b. Remove any mucus or vaginal material from the cervical outer surface.
 - c. Insert the swab into the cervix and leave it inside the cervix for a few seconds.
 - d. Remove swab from cervix and avoid contact with vaginal mucosa when withdrawing the swab.

2. Male urethral swabs:
 - a. Express exudate from the urethra and collect it on a swab.
 - b. If no exudate is available insert a swab into the male urethra, rotate and remove it.
 - c. Place swab into the orange-capped tube with transport media.

3. Penile swabs
 - a. Pre-moisten the swab with transport media.
 - b. Swab around the penis

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Print date: 23/03/2026

South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page20 of 66

- c. Place the swab into the pink-capped tube containing transport medium.

Container





The pink-capped swab should be used for high vaginal swabs, endocervical swabs and penile swabs, and the orange-capped swab should be used for urethral swabs.

Transport

Please ensure that the specimens reach the laboratory as soon as possible as some bacteria can become unviable when not kept in the correct conditions. This would lead to an unrepresentative result.

Refrigeration if these type of specimens is not advised and if there is a delay should to be stored at room temperature.

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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page21 of 66

6.3 Faeces Samples

Information



Give all relevant clinical history especially date of onset, food history, foreign travel, abdominal pain, contact with other people and antimicrobial treatment.



Please consider requesting other investigations such as norovirus or Hepatitis A where seafood has been consumed and GI symptoms and/or clinically relevant features have developed.



Do not mix urine with stool sample, patients should be encouraged to urinate before giving the faeces sample.



On the request form, it must be stated whether bacterial faecal PCR or Viral PCR is required.





All patients >65 years old and in-patients >2 years old will be tested for *Clostridium difficile* automatically.

Collection

1. Place a wide mouth container e.g. potty or large empty container in the toilet bowl to prevent specimen falling into the toilet.
2. Cover the potty/large container with clean plastic wrap.
3. Pass the stool onto the potty.
4. Using a spatula, half-fill the faeces container. Do not fill more than a third full if the specimen is liquid (minimum volume is 2ml).
5. Flush the remainder of the stool sample down the toilet.
6. Wash hands thoroughly

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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page22 of 66

Container



Please note: Specimens in toilet paper, nappies, or non-sterile containers are not acceptable and must only be sent in the container as specified above for both bacterial and viral testing.

Transport

Samples need to be transported to the laboratory as soon as possible and should be refrigerated if delay is expected.

6.4 Sputum Samples/Bronchoalveolar Lavage / cough swabs

Information





A sputum sample (for non-mycobacterial culture) should be the result of one single expectoration.



The best specimens are those produced early in the morning from a deep cough, before the patient eats or drinks or clean their teeth.

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page23 of 66



If sputum requires testing for *Mycobacterium tuberculosis*, three separate specimens should be sent on consecutive days– ideally the first specimen of the day. Samples requiring TB testing – will be sent to the reference laboratory for testing and will delay the release of result. See turn-around times for more details.



For diagnosis of *Pneumocystis carinii* pneumonia (PCP) – induced sputum or bronchoalveolar lavage is more reliable.



If Legionella or Pneumococcal antigen is to be excluded, please send a urine sample in either a plain universal or boric acid container. See Section 6.1 on how to take a urine sample.



Cough swabs are only accepted from cystic fibrosis patients.



Collection

1. Approximately 5ml of sputum from the lower respiratory tract needs to be expectorated by deep coughing.
2. If cough is dry, physiotherapy, postural drainage, or inhalation of aerosol before expectoration might be helpful.
3. The sputum should be collected in the container shown below. No other containers will be accepted.

Container



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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page24 of 66

Ensure that the container used is sterile; a wide-mouthed container might be easier to use.

Transport



Sputum samples must be sent in separate bags



Sputum samples must be sent to the laboratory as soon as possible.



If delays are expected, specimens should be refrigerated.

6.5 Blood Cultures

Information





Blood cultures should only be taken when there is a reason to suspect infection. ‘Saving Lives’ guidance suggests that if bacteraemia is strongly suspected then two sets of blood cultures should be taken at separate times and sites. This is particularly important for patients with septicaemia. Blood cultures should not be taken for routine assessment.



The blood culture set consists of two bottles, one with an orange label and cap (anaerobic culture), which contains nutrients that will support growth and allow detection of micro-organisms that prefer reduced oxygen environment. The other with a green label and cap (aerobic culture) contains nutrients for micro-organisms that thrive in an oxygen-rich environment. These bottles should be sent containing 8– 10ml of the patients’ blood. For paediatric samples, use a bottle with a yellow label and cap, which holds a smaller amount (5ml) – if only a small amount of an adult’s blood can be obtained, use a paediatric bottle.

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page25 of 66



Two sets are usually collected from different veins, or through existing venous catheters, and sometimes further sets are collected at timed intervals. This is done to detect microorganisms that are present in small numbers or are released into the bloodstream intermittently. It is also done to help ensure that any microorganisms detected are the ones causing the infection and are not present just as contaminants from the skin.



Several samples are also collected from children, but the quantity of each blood sample will be smaller and appropriate for their body size.



If infective endocarditis is considered, please send a total of 3 sets of blood cultures and discuss with a Consultant Medical Microbiologist. These should be taken via different venepuncture sites.



The Microbiology laboratory at James Cook uses the BacTAlert system, which allows automatic monitoring of the blood cultures. All blood cultures are monitored over a 5–day period (any clinical details of heart problems e.g. valve replacement or endocarditis, get a 10 day incubation period).



Positive results are relayed to the appropriate requester as soon as the Gram stain has been interpreted.




An interim negative report is sent after 48 hours incubation period, but all bottles will be monitored until the 5/10 days have passed.



For patients on antibiotics, a smaller volume of 5ml should be inoculated into each bottle rather than 10ml so that the effect of dilution can be used to neutralise the antibiotics.

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	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page26 of 66


Collection

Before the bottles are inoculated, ensure that the sensor at the bottom of each bottle is intact; do not use if it is yellow. The broth in the bottles should be clear, if cloudy do not use that bottle.

1. Kit Preparation:
 - a. Label bottles with surname, forename, date of birth and hospital number in the spaces provided. If using printed labels, ensure they do not cover barcodes and do not tear off barcode labels.
 - b. Remove caps from bottles and clean with an alcohol wipe.
2. Skin preparation:
 - a. Wash your hands with soap and water and then dry.
 - b. Clean any visibly soiled skin on the patient with soap and water and then dry.
 - c. Apply a tourniquet and palpate to identify vein.
 - d. Clean the skin with an alcohol wipe and allow to dry. If a culture is being collected from a central venous catheter, disinfect the access port with an alcohol swab and allow to dry.
3. Sample collection – Needle and syringe method
 - a. Wash and dry your hands again or use alcohol hand rub and apply clean examination gloves (sterile gloves not necessary)
 - b. Insert needle – do not palpate again after cleaning.
 - c. Collect the sample and release the tourniquet.
 - d. Cover the puncture site with an appropriate dressing.
 - e. If blood is being collected for other tests always inoculate the blood culture bottles first.
 - f. Inoculate the blood into the culture bottles. Do not change the needle between sample collection and inoculation. Inoculate the orange blood

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Print date: 23/03/2026

	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page27 of 66



culture bottle first and then the green one. Ensure that at least 5–10ml is inoculated into each bottle.

- g. Discard the needle and syringe in a sharp's container at the point of use.
- h. Remove gloves and wash hands with soap and water.
- i. Record the procedure in the patient's medical notes including indication, date, time, site of venepuncture and any complications.

4. Sample collection – Winged blood collection method (preferred method)

- a. Wash and dry your hands again (or use alcohol hand rub) and don clean gloves.
- b. Attach the winged blood collection set to the blood collection adapter cap.
- c. Insert the needle. Do not palpate the vein again after cleaning the skin.
- d. Place the adapter cap over the blood culture bottle and pierce the rubber bung.
- e. Hold the bottle upright and use the bottle graduation lines to gauge the sample volume being collected.
- f. If blood is being collected for other tests always inoculate the blood culture bottles first. Follow the instructions for which culture bottle to inoculate first.
- g. Collect the sample and release the tourniquet.
- h. Discard the winged collection system in a sharps container at the point of use.
- i. Cover the puncture site with an appropriate dressing.
- j. Remove gloves and wash hands with soap and water.
- k. Record the procedure in the patient's medical notes including indication, date, time, site of venepuncture and any complications.

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page28 of 66

Container



Aerobic

Pediatric

Anaerobic

Transport

The blood culture bottles should reach the laboratory as soon as possible, and if delays occur, the specimen should be stored at room temperature – never refrigerate inoculated blood culture bottles.

6.6 ENT Swabs

Information





Ensure the form includes relevant clinical details, as this will allow the laboratory to culture for specific organisms e.g. *Neisseria meningitidis* or *Bordetella pertussis*.

Collection and Container

PLEASE NOTE: Before taking the sample, please ensure that the swab has been moistened in the transport medium.

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 	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page29 of 66

Collection of Nasal swabs:

1. Pre-moisten the swab in the transport medium.
2. Insert the swab into the nostril and guided it gently and horizontally to the back of the nose.
3. If an obstruction is encountered, withdraw the swab, and reinsert it through the other nostril.
4. As soon as the resistance to the posterior wall is felt, withdraw the swab, and insert it in the orange-capped container.



The blue-capped pernasal swab should only be used for the culture of *Bordetella pertussis* – using this swab has been proven to increase the yield of any pertussis present due to the specific shape of the swab.

Transport

Swabs should be transported in the transport media contained within the swab tube– the samples should reach the laboratory as soon as possible and should be stored in the fridge if there are going to be delays

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page30 of 66

Bacteriology eSwab User Guide

Selection of eSwabs for Bacterial Investigation



PINK

- Wounds, skin, ulcers and burns.
- High vaginal swab
- Endocervical
- Oral
- MRSA screening



ORANGE

- Ear
- Eye
- Nasal
- Throat
- Urethral



BLUE

- Nasopharyngeal for *Bordetella pertussis* investigation

Step 1

Complete ICE request form

Collect equipment:

- Select appropriate eSwab
- Examination gloves
- Apron

Use sterile examination gloves to avoid contamination with your own skin flora.

Check all items to be used are within expiry date.



Step 2

Please select appropriate eSwab for investigation required, as detailed above.

Take swab supplied with specimen tube and take sample as required for investigation. Please take separate samples for each request / additional sites.



Step 3

Place sampled swab into specimen tube containing liquid transport medium. Break off the swab at the red mark indicated on the swab shaft.



Step 4



Following sampling replace the cap on the specimen tube and screw on firmly to avoid leakage of material.



Step 5

Ensure patient details and swab site are clearly labelled on the specimen tube and match the request form. (It is acceptable to use a small patient ID/ICE label).

Unlabelled specimens will not be processed. Once complete please send to Microbiology for laboratory

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page31 of 66

6.7 Corneal Scrape

Information



In addition to the routine eye swabs, a swab of the corneal ulcer can be sent but the best sample is where the needle/scalpel is used to inoculate direct into the media plates which are collected from microbiology.



DO NOT send the scalpel or needle used to take the scrape, as this is a sharps risk to laboratory staff.



If *Acanthamoeba* is suspected, then please send the contact lens fluid with or without the contact lens or the needle used flushed with a small amount of sterile saline.

Collection

Can be via a swab, or by using a syringe/scalpel to directly inoculate culture plates.

Container



The scalpel is used to directly inoculate the media plate, the following plates can be ordered from the laboratory by ringing 52606 and asking for a corneal scrape pack.

The plates required are:

- Fastidious Anaerobic Agar (FAA) plate,
- blood plate, chocolate plate
- Sabaroud (SAB) plate.
- a slide is also required for a Gram stain which will come in the plate pack, please label with the patients name on the side of the slide inoculated.

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page32 of 66

Transport

The slide should come straight to the laboratory so a Gram stain can be carried out to indicate if any micro-organisms are present, along with the direct culture plates, once inoculated, so that they can correctly incubated.

Swabs should be transported in the transport media contained within the swab tube– the samples should reach the laboratory as soon as possible and should be stored in the fridge if there is going to be delays.

6.8 Wound and Pus swabs

Information



The site and origin of the material must be stated on the request form and sample.



Anaerobes and fastidious organisms die if subjected to delay or dehydration.



Transport medium must always be used for swabs.



Pus is preferable to a wound swab.



Pus is essential if testing for *M. tuberculosis*.

Collection

1. If any volume of pus is present it should be collected using a sterile syringe into a sterile universal container rather than a pus swab
2. Pre-moisten the swab provided with transport medium before swabbing the wound.
3. Replace the swab into the pink-capped tube containing transport medium.

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South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page33 of 66

Container



Transport

Wound swabs should be transported to the microbiology reception as soon as possible. If there is a suspected delay in delivery, then the swabs should be refrigerated.

6.9 Skin Scrapings

Information



The edge of a skin lesion is more likely to contain viable fungus.

Collection

1. Using a curved scalpel blade, scrape across the inflamed margin of the lesion into the apparently healthy tissue.

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Print date: 23/03/2026

South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page34 of 66

Container



Use a Dermapak to collect skin scrapings.

Transport

Samples should be transported to the microbiology reception via courier and should be kept at room temperature.

6.10 Hair Samples

Information





Cut hairs are unsatisfactory due to the fact that infection usually occurring below the surface near to the scalp.

Collection

1. Scalp scrapings should include hair stubs and can be taken using a sterile scalpel.
2. Hairs can be plucked from the scalp using sterile epilating forceps.

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page35 of 66

Container



Transport

Samples should be transported to the microbiology reception via courier and should be kept at room temperature.

6.11 Nail Scrapings

Information



Clippings should be taken from the discoloured or brittle part of the nail.



The nail should be cut back as far as possible from the free edge as some fungi are restricted to lower parts.



Scrapings can also be taken to supplement the clippings.



Nails should **NOT** be sent to the laboratory in a universal container, due to the nails not being able to dry out, which could result in an overgrowth of unwanted bacteria. The Dermapak aids the drying out process which preserves the fungus if present in the sample.

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South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page36 of 66

Collection

1. 1. Discoloured , dystrophic or brittle areas should be sampled using pincer style nail clippers
2. If the distal edge is not involved, scrape the affected area using a scalpel.
3. blade

Container



Use the Dermapak for nail clippings and scrapings.

Transport

Samples should be transported to the microbiology reception via courier and should be kept at room temperature.

6.12 Cerebrospinal Fluid (CSF)

Information

- 🦠 All specimens must be labelled appropriately.
- 🦠 A request form with appropriate clinical history must accompany the specimen
- 🦠 The laboratory must be notified when a CSF arrives to ensure no delay in the processing of the sample.

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Print date: 23/03/2026

South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page37 of 66

- 🦠 Biochemistry will require separate specimens and forms for xanthochromia, protein and glucose. Please contact Biochemistry for special requirements.
- 🦠 If the specimen is clotted, then a cell count cannot be performed.
- 🦠 Microbiology requires the first and last sample of CSF taken.

Collection

Collection is by lumbar puncture.

Put 1–2ml into a sterile labelled universal container. In cases of suspected subarachnoid haemorrhage collection of CSF should be placed in three containers to compare the degree of bloodstaining. Only one specimen is required if the cell count is the only test required (e.g. neurology patients).

Container



Please ensure that the universal container is sterile to reduce risk of contamination.

Transport

These samples should reach the laboratory without delay in order to process them and culture any possible bacteria.




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Print date: 23/03/2026

South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page38 of 66

6.13 Tissue Samples

Information

- 
PLEASE NOTE: Specimens in formalin are not suitable for Microbiology testing and will not be processed.
- 
 Ensure that all relevant clinical history is given.
- 
 If more than one tissue or pus sample is being sent, please label them a, b, c etc. and send a separate request form for each specimen.

Collection

1. Place the specimen into a sterile universal container.
2. If there are multiple specimens of tissue, place them into separate containers with separate request forms.

Container



Transport

These samples should reach the laboratory without delay in order to process them and culture any possible bacteria.

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Print date: 23/03/2026

South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page39 of 66

6.14 Ascitic Fluid

Information

- 🦠 Samples should be sent to the laboratory in a set of blood culture bottles.
- 🦠 A separate sterile 20ml universal should contain some of the sample for a Gram stain.
- 🦠 A separate EDTA sample must be sent to haematology for a white blood cell count.

Collection

1. A sterile needle is inserted into the abdomen and a syringe is used to drain some of the ascetic fluid.
2. Place between 5ml and 10ml of the sample into a pair of blood culture bottles and some into a sterile 20ml universal for Gram stain and culture.



Container



The green bottle is for aerobic culture, orange bottle is for anaerobic culture and the white/yellow topped sterile universal.

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page40 of 66

Transport

These samples should reach the laboratory without delay in order to process them and culture any possible bacteria.

6.15 Pleural Fluid

Information

Cell counts are not performed on pleural fluids, if testing for *Mycobacterium tuberculosis* is also required, please send down a separate request form for this investigation with the one sample.

Collection

1. Collect the fluid into a syringe.
2. Place up to 20ml into a sterile universal container.

Container



Transport

These samples should reach the laboratory without delay in order to process them and culture any possible bacteria.

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Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page41 of 66

6.16 Synovial Fluid

Information



Biochemistry, cytology, and TB culture (if requested) will each require separate specimens and request forms.



Please give all relevant clinical details on the form, especially of any current or recent antimicrobial treatment.

Collection

1. Collect the fluid into a syringe.
2. Place up to 20ml into a sterile universal container.

Container





Transport

These samples should reach the laboratory without delay in order to process them and culture any possible bacteria.

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page42 of 66

6.17 MRSA Swabs

Information



MRSA swabs from in-patients are usually inoculated on the ward.



Inoculation is into pink-capped tubes using the provided cotton tipped swabs.



Do not put two swabs into one container for the nose/groin screen. Follow the guide below on how to take the screening swabs. Two swabs received in one container will result in the specimen being rejected.



A screen comprises of swabs from: nose/groin, any wounds/IV sites, any skin lesions/eczema etc. or catheter urine if appropriate.



For emergency cases on specified wards MRSA PCR is performed if requested. This test is carried out using a pink nasal/groin swab only, because the test is only validated for use for nose/groin swabs.

Collection

For correct collection of swabs see appropriate section.



Collection of groin swabs:

1. Take the cotton tipped swab from the package.
2. Gently dip the cotton tip into the culture media to moisten it.
3. Rotate the moistened swab gently but firmly over the area on each side of the groin. Only one swab is necessary.
4. Place the cotton tipped swab into the plastic tube with the gel at the bottom.

For Collection of Urine to be screened for MRSA please see 6.1.

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page43 of 66

MRSA Screening Swabs

18 step guide for taking MRSA screening swabs using the Pink eSwab 490CE.A

1

Only to be used by staff trained to take samples.

Collect equipment:

- Pink eSwab 490CE.A,
- Non sterile examination gloves and apron.

2



Check all items to be used are within expiry date. NB. Expiry date also present on packaging.

3



Explain the procedure to the patient and prepare them for sampling.

4



Prior to beginning the procedure wash hands with soap and water or disinfect hands using alcohol hand gel.

5



Perform a risk assessment to decide most appropriate PPE use. Put on non sterile examination gloves to avoid contamination of the swabs with your own skin flora.

6



Ensure swab specimen tube is at the top of the pouch before peeling open packaging. If not push tube to the top of the pouch.

7



Peel or rip open packaging level with the specimen tube as indicated in the picture.

8



Either holding the opened pack between thumb and fingers as indicated in the picture step 7, or remove the tube and place it onto a clean tray / stable surface.

9



Open a separate individually wrapped FLOQSwabs Copan flocced swab.

10



Remove the cap from the specimen tube and place inverted on a clean stable surface/tray. Use the separate single wrapped swab to sample both nares first.

11



Gently insert tip of the single swab into the anterior nares of nose. Rotate ten (10) times against the mucosal surface. Repeat using the same swab for the other nostril.

12



Swirl the swab in the transport liquid (in specimen tube) for 10 seconds and then press against inside of the container. Discard this (nares) swab into clinical waste bin.

13



Take the swab supplied in the Pink eSwab 490CE.A packaging. Stroke the swab in the groin area and rotate ten (10) times.

14



15



16



17



18

Once complete send to microbiology. Thank the patient, remove PPE and wash hands. Ensure the MRSA

South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page44 of 66

Container



Transport

MRSA swabs should be transported to the Microbiology reception as soon as possible. If there is a suspected delay in delivery, then the swabs should be refrigerated.

6.18 Line Tips

Information



Line tips can occasionally become colonised with bacteria and can go on to cause a blood stream infection which requires clinical intervention.



This may require the line tip to be removed for successful treatment.



Line tips should only be sent if there is a suspected infection, indications of this include: the site being inflamed, or unexplained fever with a line tip in situ.

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South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page45 of 66



The site and duration of line tip should be indicated on request form.



If the line entry site is inflamed then send a swab of the area also, follow the wound and skin swab section.

Collection

1. Clean the skin in the region of the intravascular catheter.
2. Withdraw the catheter with sterile forceps.
3. Cut the terminal 5cm of the catheter tip off with sterile scissors.
4. Place in a dry, sterile, labelled container to transport to the laboratory.
5. If the line tip has been used in total parental nutrition, please state on form

Container





Transport

Line tips should be delivered to the Microbiology reception via courier/porter as soon as possible. If immediate transport is not possible then the specimen should be refrigerated.

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page46 of 66

7. Acceptance of Specimens

Appropriate, well taken specimens in correct containers, which are promptly delivered to the laboratory, are the key to obtaining the best results. In order to prevent delays relevant clinical detail must be provided on the request form.

In order for specimens to be accepted.



Specimens must be in appropriate sterile containers.



Antimicrobial agents should not have been administered before the specimen was obtained.



To be able to complete examination an adequate quantity of material should be sent.



The specimen taken should be representative of the disease process.



Sterile equipment and aseptic technique must be used when collecting specimens. Care must be taken to avoid contamination from natural micro-organisms found on the skin or mucous membranes.



Specimens other than blood cultures should be stored between 2–8°C if immediate transportation to the laboratory is not available. This prevents the overgrowth of less fastidious organisms.



A specimen is likely to be rejected if it is so inadequately labelled that the patient's identification is in doubt, or if the container has leaked or is at risk of contamination. In these circumstances every effort will be made to inform the requesting doctor.

For samples that are not easily repeated (such as CSF or paediatric samples) the problem will first be discussed with a Biomedical Scientist from the relevant section who will make a decision on whether testing may be allowed to proceed

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South Tees Hospitals NHS North Tees and Hartlepool NHS NHS Foundation Trust NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page47 of 66

(usually after discussion with the clinician concerned). If the specimen is tested the report will clearly state, the nature of the problem as a comment. Alternatively, the requesting clinician will be asked to send a repeat sample.



PLEASE NOTE: Samples of which pose a danger of infection should **NOT** be transported using the hospital pneumatic/ air tube system. These samples will still be issued with a specimen number; however reception staff will not open the sample. Instead it will be handled in the Category 3 laboratory.

Example of leaking specimen:



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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page48 of 66



8. Testing of Bacteriology Samples







8.1 Urine

8.1.1 Urine Culture

Background of test	<p>Urinary tract infection (UTI) results from the presence and multiplication of bacteria in one or more structures of the urinary tract with associated tissue invasion. This can give rise to a wide variety of clinical syndromes. Infection may spread to surrounding tissues (e.g. perinephric abscess) or the bloodstream (bacteraemia, septicaemia). In contrast the presence of certain types of micro-organisms in urines other than catheter urines (e.g. <i>S aureus</i> including MRSA, <i>Candida</i>) may be a sign of bacteraemia or candidaemia rather than UTI.</p> <p>An important part of the investigation of UTI is bacteriological culture.</p> <p>Microscopy of the specimen is undertaken to quantify the number of white blood cells, red blood cells and also to detect whether there are bacteria or yeast present.</p> <p>Culture and antibiotic sensitivity testing is also carried out, to determine what, if any, bacteria are present and the antibiotic sensitivity pattern.</p> <p>Clinical details provided tailor the tests carried out on the sample.</p>
Associated Diseases	 Acute and chronic pyelonephritis  Cystitis

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page49 of 66

	     	Urethritis Epididymitis Prostatitis Bacteraemia Septicaemia Candidaemia
Turnaround Time	Up to 5 days	
Referred Test	No	
Referral Laboratory	N/A	



8.1.2 Urine Parasites





Background	Microscopic detection of parasitic ova in the urine. This test is carried out when patient has travelled to counties within Africa and Asia or places with poor sanitation.
Associated Diseases	Schistomiasis
Turnaround Time	5 days
Referred Test	No
Referral Laboratory	N/A

8.1.3 Urine Mycobacteria

Background	<p>Genitourinary tuberculosis – As the infection progresses, kidney lesions may caseate, discharging viable AAFB into the renal pelvis and ureter and infections may thus further spread to the bladder.</p> <p>Urinalysis will often show proteinuria, haematuria and sterile pyuria.</p>
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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page50 of 66

	The urine sample will be sent to the reference laboratory which will perform PCR testing and culture.
Associated Diseases	 Tuberculosis  Glomerulonephritis  Renal Failure 
Turnaround Time	Negative sample: 6–8 weeks Positive sample: up to 13 weeks after confirmation and sensitivity testing
Referred Test	Yes
Referral Laboratory	TB Reference Laboratory – Freeman Hospital Newcastle

8.2 Vaginal and Penile Swabs

Background	<p>A range of sexually transmissible organisms cause infections responsible for a large number of clinical syndromes. When a specific STI is diagnosed, it is recommended to screen for other infections.</p> <p>Genital testing can also be performed to detect <i>Trichomonas</i> infection, yeast infections or any other abnormal bacterial growth.</p> <p>From the swab, the specimen is cultured to attempt to grow any bacteria that are present in the sample.</p> <p>Clinical details provided tailor the tests carried out on the sample.</p>
Associated Diseases	<ul style="list-style-type: none"> • Gonorrhoea • Trichomoniasis • Vaginal candidosis

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page51 of 66



	<ul style="list-style-type: none"> • Bacterial vaginosis (BV) • Toxic shock syndrome • Lancefield group B streptococcus • Listeria monocytogenes • Septic abortion • Bartholinitis • Mucopurulent cervicitis • Postpartum endometritis • Salpingitis • Pelvic inflammatory disease (PID) • Prostatitis • Epididymitis • Orchitis • Balanitis
Turnaround Time	Up to 5 working days
Referred Test	
Referral Laboratory	

8.3 Faeces

8.3.1 Faeces PCR

Background	<p>Faecal PCR is a test that detects and identifies bacteria that cause infections of the lower digestive tract. The test distinguishes between the types of bacteria that cause disease (pathogenic) and the types that are normally found in the digestive tract (normal flora). The test helps to determine if pathogenic bacteria are the cause of a person's gastrointestinal symptoms (gastroenteritis).</p>
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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page52 of 66

	<p>The organisms routinely tested for include: <i>Salmonella</i> spp., <i>Shigella</i> spp., <i>Campylobacter</i> spp., <i>E.coli</i> O157, Shiga toxin, <i>Giardia</i> and <i>Cryptosporidium</i>.</p> <p>If there is an appropriate history of foreign travel, culture for <i>Vibrio</i> spp. will be performed, along with <i>Yersinia</i> when the correct clinical history is provided.</p>
Associated Diseases	Gastroenteritis
Turnaround Time	5 days
Referred Test	No
Referral Laboratory	N/A

8.3.2 Faeces – *Clostridium difficile*

Background	<p><i>Clostridium difficile</i>, also known as C. diff, is a bacterium that can infect the bowel and cause diarrhoea. The infection most commonly affects people who have recently been treated with antibiotics but can spread easily to others. <i>C. difficile</i> infections are unpleasant and can sometimes cause serious bowel problems, but they can usually be treated with another course of antibiotics. The <i>C.difficile</i> testing is done by a line assay which detects whether the bacteria and toxin are present within the sample.</p> <p><i>Clostridium difficile</i> testing will be done on fluid/mucoid/blood-stained stools from all inpatients > 2 years old and community patients >65 years of age. Testing for <i>C.difficile</i> will not be carried out if:-</p> <ul style="list-style-type: none"> • The patient is under 2 years old. • two samples have been sent in the last 10 days. • A patient has tested positive for <i>C.difficile</i> in the last 28 days.
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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page53 of 66

	<p>Samples tested early in a <i>C.difficile</i> infection may test as toxin negative, but all toxin negative samples are tested by PCR to see if the bacteria can potentially produce the toxin.</p> <p>If symptoms continue, and <i>C.difficile</i> remains a clinical possibility, please repeat after 48 hours</p>
Associated Diseases	Toxin mega colon
Turnaround Time	4 Hours
Referred Test	No
Referral Laboratory	N/A

8.3.3 Faeces Parasites

Background	<p>Intestinal parasites are parasites that can infect the gastro-intestinal tract of humans. They can live throughout the body, but most prefer the intestinal wall. Means of exposure include ingestion of undercooked meat, drinking infected water, and skin absorption. Parasite investigation will also be carried out where there is a history of foreign travel to Central or South America, Africa or Asia.</p> <p>These investigations will also be carried out in patients with persistent GI symptoms for over 2 weeks, patients with eosinophilia, or if there are query worms in the sample.</p> <p>The laboratory performs this test via microscopy of the faecal sample to detect parasitic cyst, ova or worms.</p>
Associated Diseases	
Turnaround Time	5 days
Referred Test	No





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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page54 of 66



Referral Laboratory	N/A
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8.4 Sputum Samples/Bronchoalveolar Lavage

8.4.1 Sputum Culture

Background	<p>A sputum culture is requested to detect and diagnose bacterial infections such as bacterial pneumonia. A bacterial infection can reach the lungs in several ways. Bacteria may spread from the mouth and throat to upper respiratory tract, bacteria in oral or gastric secretions may be breathed into the lungs as droplets in the air. These droplets are produced when a person sneezes or coughs and can pass into the lungs. Bacteria can also spread to the blood (septicaemia) from a local infection and then be carried to the lungs. Bacterial pneumonia may be a person's main infection, or it may develop after a viral infection such as influenza, a cold or viral pneumonia.</p> <p>The sputum is cultured to identify and bacteria, yeast or fungus present and has antimicrobial sensitivities performed so that options for treatment can be given.</p> <p>Clinical details provided tailor the tests carried out on the sample.</p>
Associated Diseases	 Cystic Fibrosis  Pneumonia  Tuberculosis  Legionnaires disease
Turnaround Time	<p>5 days for routine culture, 8 days if from a patient with cystic fibrosis.</p> <p>Three weeks when fungal culture is requested.</p>

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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page55 of 66

Referred Test	Legionella culture / testing is referred to Colindale reference laboratory in London, if a patient test positive in a legionella urine antigen test.
Referral Laboratory	Colindale PHE, London.

8.4.2 Mycobacteria

Background	<p>Mycobacterial microscopy and culture is very important in the diagnosis of <i>Mycobacterium</i> infection. Correct diagnosis and treatment are essential in the management of the patient; therefore specimens are referred to a regional Mycobacterium Reference Laboratory for microscopy, culture and antimicrobial susceptibility testing by special techniques.</p> <p>Emergency stains can be performed on suspected TB samples; however the sample will still have to be sent to the reference laboratory for confirmation.</p> <p>Testing can be done on many sample types from tissue, fluid samples, Blood, sputum, urine, for advice please contact the laboratory.</p> <p>When blood is being tested please send 2 X 3ml blood samples in lithium heparin tubes (green topped tubes).</p>
Associated Diseases	Tuberculosis
Turnaround Time	3 months
Referred Test	Yes
Referral Laboratory	TB Reference Lab – Freeman Hospital Newcastle & PHE TB reference laboratory in Birmingham when positive at the Freeman.

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	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page56 of 66



8.5 Blood Cultures

Bacterial Culture

<p>Background of the Test</p>	<p>Blood cultures are collected to detect and identify bacteria and yeasts in the blood. Some bacteria prefer oxygen (aerobes), while others thrive in a reduced oxygen environment (anaerobes). Blood cultures are usually collected into two types of media to detect both types of bacteria. If your blood culture is positive, the specific bacteria causing the infection will be identified and antibiotic susceptibility testing will be done to tell your doctor which antibiotics will be effective for treatment. If yeasts are causing the infection, treatment will be given that is appropriate for fungal infections.</p> <p>Infections of the bloodstream are caused most commonly by bacteria (bacteraemia) but can also be caused by a fungus (fungaemia) or a virus (viraemia). The source of the infection is typically a specific site within the body. If the immune defences and white blood cells cannot keep the infection localised at its source, it may spread to the bloodstream. When the body shows an early response to this, such as a high or low body temperature, high heart or breathing rates, and a high or low white blood cell count, it results in a condition known as sepsis.</p> <p>The blood cultures are loaded onto a piece of equipment called the BacTAlert, which incubates the blood cultures and detects any bacteria present.</p> <p>Any positive cultures have a Gram stain performed and are cultured onto plates for bacterial identification and</p>
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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page57 of 66

	antibiotic sensitivities. At this point the laboratory will phone the positive result to the requesting source.
Associated Diseases	 Sepsis  Endocarditis
Turnaround Time	Up to 11 days
Referred Test	No
Referral Laboratory	N/A



8.6 Swab Testing

Background of the test	Clinical details provided on the request form and the site of the sample taken tailors the tests carried out on the sample.
Associated Diseases	
Turnaround Time	Up to 5 working days, PVL testing can be up to 2 weeks.
Referred Test	Not for routine culture, only referred when DNA testing is carried out for things like PVL testing.
Referral Laboratory	AMRL Colindale, London

8.7 Corneal Scrapes

Background of test	Once the plates are received in the laboratory, they are incubated in the correct atmosphere for up to 48 hours, the sabaroud plate is incubated for a further three weeks to detect any fungal growth.
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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page58 of 66

	Clinical details provided on the request form and the site of the sample taken are used to tailor the tests carried out on the sample.
Associated Diseases	
Turnaround Time	Up to 4 weeks, as all samples are cultured for both bacteria and fungi.
Referred Test	If acanthomeba testing is required on contact lens fluids etc, this goes to a reference laboratory.
Referral Laboratory	Micropathology, Warwick university

8.8 Skin, hair and nail Scrapings for fungal culture



Background of test	<p>All of these types of specimens received in the laboratory for testing are cultured onto special media to enable fungal growth.</p> <p>When fungal growth is present a microscopy of the growth is performed and then the growth is identified by its microscopic and macroscopic characteristics.</p>
Associated Diseases	
Turnaround Time	Up to 4 weeks.
Referred Test	
Referral Laboratory	

8.9 Cerebrospinal Fluid Samples (CSF)

Background of test	CSF must be sent to the laboratory urgently so that a cell count may be performed to detect the presence of white and red blood cells and a Gram stain performed to detect any micro-organisms. These results are telephoned to the source if an urgent call has been received in the laboratory and placed on the LIMS system and an interim report issued on ICE.
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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page59 of 66

	Culture is then performed for any bacterial growth and results updated in LIMS and ICE.
Associated Diseases	<ul style="list-style-type: none"> • Meningitis • Encephalitis
Turnaround Time	Up to 5 working days for bacterial growth
Referred Test	
Referral Laboratory	



8.10 Tissue, ascitic, pleural, synovial or any fluids Samples

Background of test	<p>All samples have a Gram stain performed for presence of bacteria, and if a suitable sample is received, a cell count is performed.</p> <p>All samples are cultured direct and enriched.</p> <p>Clinical details provided on the request form and the site of the sample taken is used to tailor the tests carried out on the sample.</p>
Associated Diseases	
Turnaround Time	Up to 10 working days for bacterial growth
Referred Test	
Referral Laboratory	

8.11 MRSA Testing Samples

Background	Methicillin-resistant Staphylococcus aureus (MRSA) is a major cause of hospital-acquired infections, causing high morbidity and mortality in the UK and throughout the world.
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South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page60 of 66

	<p>The specimen is cultured onto MRSA selective media to detect the presence of this organism.</p> <p>Rapid PCR is performed using the specimen on GeneXpert to detect small quantities of MRSA DNA.</p>
Associated Disease	Methicillin-resistant Staphylococcus aureus (MRSA)
Turnaround Time	5 days or 2 hours for MRSA PCR
Additional Information	
Referred Test	No
Referral Laboratory	N/A

8.12 Line Tips

Background	<p>In order to determine which line tips are likely to be the cause of infection in the blood stream a semi-quantitative technique is used. A segment of the line tip which was terminal to the patient is rolled across a blood agar plate and after this the colonies, if present are counted. Any plates with more than 15 colonies of any organism are commonly accepted in the prediction of line tip sepsis.</p>
Associated Diseases	Sepsis
Turnaround Time	3 days
Referred Test	No
Referral Laboratory	N/A

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 	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
Pathology Service, Department of Microbiology	Current Author: Sharon McIntyre	Copy No.:
	Approved by: See Q Pulse Record	Page61 of 66

9. Reporting of Results

All results are reported via the Pathology LIMS system which feeds into the WebICE system.

10. Additional Test Requesting



On Occasion it may be necessary to request an additional test on a sample either already received by the Bacteriology Department or a Sample sent to another Discipline within Pathology. This Can be done by contacting the department as outlined in section 2 where advise can be given on the suitability of the sample and/or test request. May not always be possible to perform the request as this can depend on the storage and retention times of the sample, if the sample has undergone any pre-treatment prior to original testing and sample volume.

Below is a table containing the common tests the expected Turn Around Time and whether this can be added on as an additional request. This is not extensive, and the requestor MUST contact the department prior to sending any forms for additional tests.

Test Name	Specimen Type	Turnaround Time	Available as Add-on Test
Acanthamoeba PCR (Referred)	Contact lens fluid, corneal scrape in sterile saline in Plain sterile (universal)	3 working days	No

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page62 of 66

Antibiotic Assay Biochemistry (Gentamicin, Vancomycin & Teicoplanin)	Serum separator tube	2 hours	Yes
Antibiotic Assay Referred (Amikacin & Tobramycin)	Serum separator tube	Up to 7 days (phoned report)	Yes
B-D-Glucan & Galoactomannan (Referred)	Serum separator tube	Up to 3 working days	No
Blood Cultures	Aerobic & Anaerobic or Paediatric Bottle	Up to 6 days Up to 11 days for suspected endocarditis	N/A
Carbapenamase Culture Screen (CPE)	Pink - topped COPAN E-swab (rectal swab) or stool sample in plain top universal	Up to 3 days	Yes
Clostridium difficile (Toxin Detection)	Faeces Bristol Stool 5-7	Up to 4 hours	Yes
Corneal Scrape (Swab/Plates)	Pink topped COPAN E-swab Plate set available from Microbiology on request	Up to 4 weeks	N/A
CSF Bacterial/Viral PCR (Referred Test)	Plain Sterile universal	Up to 5 days	Yes:

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Print date: 23/03/2026

	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page63 of 66

			Contact Laboratory to ensure sufficient volume available.
CSF Microscopy & Bacterial Culture	Plain Sterile universal	Up to 4 days	Yes: Contact Laboratory to ensure sufficient volume available.
Bacterial Culture Swabs (Wounds/Skin)	Pink topped COPAN E-swabs	Up to 4 days	Yes
Bacterial Culture Swabs (ENT)	Pink topped COPAN E-swabs	Up to 7days	Yes
Bacterial Culture Swabs (Genital)	Pink topped COPAN E-swabs	Up to 4 days	Yes
Bacterial Culture (Tissue/Fluid)	Plain Sterile universal	Up to 8 days	Yes
Sputum/BAL Culture	Plain Sterile universal	Up to 5 days	Yes
Faecal Enteric pathogens PCR (Bacterial/Parasite/Viral)	Faeces Bristol Stool 5-7	Up to 5 days	Yes
Faecal Parasite Microscopy	Faeces	48 Hours	Yes: Require clinical history including any foreign travel.
MRSA Screen Culture (Nose/Groin, Wound/Skin, Urine & Sputum)	Pink topped COPAN E-swab. Urine/Sputum – Plain Sterile universal	Up to 2 days	Yes
Fungal Culture Tissue, Sputum & BAL	Plain Sterile Universal	Up to 3 weeks	Yes

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page64 of 66


Fungal Culture Hair, Nail Clippings and Skin Scrapings	Dermapak	Up to 3 weeks	N/A
AAFB Stain Sputum BAL	Plain Sterile Universal	4 days	Yes
Mycobacterial Culture Various (Referred)	Plain Sterile Universal	up to 3 months	Yes
Mycobacterial PCR Various (Referred) Only available on consultant request	Plain Sterile Universal	4 days	Yes: Only available on consultant request
Urine Microscopy & Culture	Boric acid universal or 7ml paediatric boric acid container (red top)	Up to 3 days	N/A

11. Minimum Re-Test Interval

The microbiology laboratory is reviewing procedures relating to retesting of samples, in line with recently published guidelines from the Royal College of Pathologists (g147_national-minimum_retesting_intervals_in_pathology.pdf (rcpath.org)). A minimum retesting interval will be introduced for some sample types. Minimal retesting intervals (MRI) are defined as the minimum time before a test should be repeated, based on the properties of the test and the clinical situation in which it is used.

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Print date: 23/03/2026

	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page65 of 66

If there is a clear clinical indication for repeating a test within the minimum retesting interval for the sample type, then a formal request should be made to tees.clinicalmicrobiologyinquires@nhs.net. Please send this as soon as possible and provide the following information in the request:



- Patient name and DOB or NHS number
- Sample type
- Laboratory number for the rejected sample
- Specific clinical information to justify why the sample should be tested within the minimum retesting interval.

Please note for information governance purposes all emails should be sent NHS.net to NHS.net and not using any other email domain.

Sample type/test	Minimum retesting interval <i>(Repeat samples will be rejected if received within timeframes as below)</i>	Exceptions to the minimum retesting interval rule
Cough swab for bacterial culture	7 days	
Bronchial lavage samples (BAL) for bacterial culture	3 days	Excludes BAL samples sent for Mycobacterial culture. ITU/HDU
Ear swab for bacterial culture (on the same ear)	7 days	
Eye swab for bacterial culture (on the same eye)	7 days	Neonates
Faeces for C. difficile testing	If negative on 3 samples, no further testing for 28 days If positive, no further testing for 28 days	
Faeces for bacterial PCR	7 days	Samples sent for clearance testing as per public health guidance
Faeces for viral PCR	7 days	

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Print date: 23/03/2026

South Tees Hospitals  North Tees and Hartlepool  NHS Foundation Trust	File name: S_M_LFR0126 Microbiology User Guide	Revision:4
	Current Author: Sharon McIntyre	Copy No.:
Pathology Service, Department of Microbiology	Approved by: See Q Pulse Record	Page66 of 66

Faeces for microscopy of ova, cysts and parasites	1 day	
Mouth swab for bacterial culture	7 days	
MRSA screen from the same site	7 days	If required as a clearance sample for transfer
Nasopharyngeal aspirate for bacterial culture	7 days	
Nose swab for bacterial culture	7 days	
Throat swabs– group A	Negative result 3 days positive result 7 days	
Seminal fluid for bacterial culture	28 days	Prostatic secretions
Skin scrapings, nails, and hair for mycology culture	3 months	Skin biopsy samples
Sputum for bacterial culture	3 days	Excludes sputum sent to for Mycobacterial culture
Midstream and catheter urine samples for bacterial culture	3 days	
Wound swabs for bacterial culture from the same site	7 days	Diabetic foot

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Print date: 23/03/2026