



Public Health
England

Public health microbiology services user handbook

North East England Microbiology Laboratory Newcastle upon Tyne

Specialist Microbiology Network Public Health Laboratory, Newcastle

North East England Microbiology Laboratory Newcastle upon Tyne

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Newcastle upon Tyne

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1 The PHE laboratory in Newcastle

The Newcastle upon Tyne, Laboratory is part of the Microbiology Services Division of Public Health England (PHE). The Division provides diagnostic and specialist microbiology, food, water and environmental microbiology services to the NHS and to the community at large.

In addition to its clinical microbiology role, the Newcastle Laboratory provides a range of public health microbiology services. These include the detection, characterisation, susceptibility testing and where appropriate typing of organisms causing Enteric disease, Genito-Urinary and virological infections. The laboratory incorporates a highly advanced molecular diagnostics facility, a major Supra-Regional Reference centre for Tuberculosis and Mycobacterial infections, and is linked to the PHE Food, Water and Environmental Microbiology Laboratory based in York.

The PHE laboratory works in close collaboration with the Newcastle Hospitals NHS Foundation Trust Department of Microbiology and operates a number of joint services, notably Enteric Microbiology.

Additionally, we are linked to a network of PHE specialised laboratories across England and to major reference units in Colindale (London) and PHE Microbiology Research Services (Porton Down).

This User Manual describes our public health microbiology services and gives contact details for the Laboratory and its key personnel. It is also available on the PHE website. A separate handbook documents the clinical diagnostic and research services of the Newcastle Laboratory.

2 Our undertaking is to provide

- Microbiology support for the investigation, management and control of incidents of infection and outbreaks of communicable disease both during and out of normal working hours.
- Expert medical and scientific microbiological advice, including access to PHE experts locally and nationally as necessary.
- Assistance during field investigations by processing clinical samples.
- Receipt, processing and reporting of laboratory results and epidemiological data in a timely and efficient manner.
- Assistance in maintaining an efficient communication network with all public health and NHS organisations involved in communicable disease control in the North East of England.

Please Note: Food, and Environmental samples are examined by our colleagues in the PHE FW&E Microbiology Laboratory, York based at:
Block 10, The Flood and Environment Research Agency, Sand Hutton, York YO41 1LZ

Dr. Heather Aird, Head of Unit;
Mr John Harford, Operations Manager, & FWE Network Manager;
Dr. John Piggott, Laboratory Manager.

Tel: 01904 468948 fax: 01904 468082 email: yorkfwelab@PHE.gov.uk

3 Location and access details

The laboratory is located on levels 2 and 3 of the Department of Microbiology, Freeman Hospital, Newcastle upon Tyne.

Postal address:

PHE Public Health Laboratory, Newcastle
Level 2
Freeman Hospital
High Heaton
Newcastle upon Tyne
NE7 7DN

Telephone: Direct line 0191 2821150

Or via: Newcastle Hospitals switchboard 0191 2336161

During working day: request ext. 21104 or 38783

Out of hours: request on-call scientist or medical officer

Fax: 0191 213 7289

4 Key personnel information

Lead Microbiologist for the North East:

Professor F K Gould Tel: 0191 213 8783

kate.gould@nuth.nhs.uk

Laboratory Director:

Professor J G Magee Tel: 0191 213 8783 mobile 07717421078

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Dr Manoj Valappil Tel: 0191 282 1135 manoj.valappil@phe.gov.uk

Dr Samuel Moses Tel: 0191 282 1123 sam.moses@phe.gov.uk

Dr Sheila Waugh Tel: 0191 282 1134 sheila.waugh@nuth.nhs.uk

Deputy Operations Manager/Head of Serology:

Andy Rudsdale Tel: 0191 282 1110 andrew.rudsdale@phe.gov.uk

Head of Research and Development and Molecular Diagnostics:

Dr Andrew Sails Tel: 0191 282 1118 andrew.sails@phe.gov.uk

Head, North of England Reference Centre for Mycobacteriology:

Anne Barrett Tel: 0191 213 8784 anne.barrett@phe.gov.uk

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Dave Saunders Tel: 0191 282 1120 david.saunders@phe.gov.uk

Head, Lenticule Development & Production:

Danka Tharagonnet Tel: 0191 2138194 danka.tharagonnet@phe.gov.uk

5 Laboratory working hours

Monday to Friday 0830 to 1700 hours

Saturdays 0830 to 1230 hours

(All non-urgent specimens should arrive in the laboratory within the hours specified)

6 Out of hours service

The laboratory provides an emergency out-of-hours service for urgent medical advice and to receive and process urgent specimens.

Please contact the Newcastle Hospitals Switchboard on 0191 2336161 and ask for the Consultant Microbiologist/Virologist on call.

In the event of an outbreak which requires urgent samples to be submitted outside normal working hours (and on the approval of the Microbiologist on-call or Regional Microbiologist) samples should be delivered to the laboratory reception at Freeman Hospital. Reception is staffed until 20.00 on weekday evenings and to 13.00 on weekends. A late specimen refrigerator is available beyond these hours from which the sample(s) will be collected by the on-call biomedical scientist.

If required out of hours support for testing of FW&E samples can also be obtained by calling 01904 468948.

7 Collection and transport of specimens

Storage and transportation of specimens

Specimens should be placed in a sealed bag with the form attached to the outside ("marsupial" bags are particularly appropriate). Specimens may be stored at 2-8°C but should be received in the laboratory as soon as possible (preferably within 24 hours, no later than 72 hours after being taken). Specimens may be delivered to the laboratory by a patient or relative, by the Environmental Health Officer, or via another local laboratory (which has regular transport links). If sent by post or specialised courier, packaging should comply with current postal regulations.

8 Requesting procedures

Routine requests are made by submitting a specimen, together with a completed request form, to the Laboratory.

For urgent requests, the Laboratory should be contacted in advance, by telephoning the Laboratory Office (0191 213 8782) and the specimens should be clearly marked as 'Urgent'.

For out-of-hours requests, the on-call Microbiologist/Virologist should be contacted in the first instance (contact details as listed earlier).

Request form and Specimen labelling

In compliance with Caldicott regulations, specimens must be accompanied by an appropriately completed request form.

Both request form and specimen container should be labelled with the patient's name, clinic/ NHS number or other unique identifier, such as date of birth. Additionally, the request form should state any relevant clinical details, including the date of onset of symptoms and any significant travel or occupational history. If the request form lacks this information specimen processing may be delayed or halted. Furthermore, this may cause inappropriate tests to be performed.

An ILOG reference number should be prominently displayed on both form and specimen.

It is important to us that reports of positive results reach you as soon as possible. To facilitate this, it is important that request forms are clearly marked with the sender's name, address, telephone number, fax number, and any other contact details.

9 Faeces specimens

The most common public health specimen submitted to the laboratory will be faecal samples from cases of food poisoning in the community.

Specimen collection

In the investigation of an outbreak of enteric infection, a single specimen taken during the symptomatic episode or soon after is usually collected.

For evaluation of some carrier states more than one specimen may be required as advised by the PHE Centre. We suggest that patients are instructed to layer the toilet bowl with several sheets of toilet paper, and that stools are passed onto the sheets of paper. The specimen is then collected into the specimen pot, either with the attached spoon, or a disposable tongue depressor.

As standard, the faecal sample will be processed for the presence of typical enteric pathogens namely *Salmonellae*, *Shigellae*, *E. coli* O157, *Campylobacter*, *Cryptosporidium*, *C. difficile* and Norovirus.

If any of the following pathogens is suspected:

- *Vibrio cholerae*
- Diarrhoeagenic *E.coli*
- *Yersinia enterocolitica*
- *Entamoeba histolytica*
- *Giardia lamblia*
- food poisoning due to *Staphylococcus aureus*, *Clostridium perfringens* and *Bacillus cereus*,

It is important to indicate this on the request form and to discuss these requests with laboratory staff. This could be either because the patient has travelled in from an endemic area, or gives a clinical history suggestive of infection with the above pathogens. Every attempt will be made to identify unusual intestinal pathogens.

Food Premises

Should you suspect a food premises as being the point source of a possible food poisoning outbreak and it is intended to submit food or environmental samples, contact should be made with our colleagues in the PHE, Food and Environmental Laboratory. A single ILOG number can be used for both human and FWE samples. Contact details are given in section 2 page 2.

10 Throat and skin specimens

Before submitting throat swab specimens for public health investigations, such as *Corynebacterium diphtheriae* or nasal carriage of *N. meningitidis*, please contact the laboratory for advice and discussion.

Specimen collection

The best specimen is a well visualised and properly collected swab from the tonsils or inflamed area, or pus. Samples should be sent to the laboratory in plain transport medium and before the administration of antibiotics.

11 Viral respiratory specimens

Occasionally outbreaks of viral respiratory infections (e.g. influenza, measles) occur in institutions. The incident management team will advise on when specimens from these outbreaks need to be submitted. Please seek advice from the laboratory on the specimens required and their submission.

12 Tuberculosis and mycobacterial infections and contact tracing

Transmissible mycobacterial infections are usually diagnosed by the examination of respiratory samples, although very occasionally other samples types may be of value.

In tracing contacts of a case of tuberculosis, blood samples from an exposed cohort of individuals may be examined for specific activation of interferon gamma (IGRA; Interferon Gamma Release Assay). These assays require samples to be submitted in purpose designed tubes and according to a specific protocol.

Please contact the staff of the Regional Centre for Mycobacteriology, Public Health England, Microbiology Services Division, Newcastle Laboratory before submitting contact tracing samples (0191 213 8782).

13 Other communicable diseases

Less common infections may require different specimen types or have distinct storage and transport needs. In such circumstances, please consult with laboratory staff before taking and submitting samples.

14 Result reporting

Results will be reported as hard copy printouts and distributed via established routes. Electronic reporting facilities are also available, depending on the compatibility of computer systems. Urgent results will be telephoned.

15 Health and safety

Standard specimen containers and transport systems should be always used. The individual requesting or taking specimens from patients known to be infectious must ensure that both the form and specimen bag are appropriately labelled.

It is essential, where the requester knows or strongly suspects that the patient is infected with a dangerous pathogen that this specific information is provided with every specimen or request form.

Packaging of specimens

Specimens should be placed in the appropriate specimen container, which must be securely fastened and any accidental spillage cleaned immediately. Each specimen should be placed in a clear plastic double (“marsupial”) self-sealing bag with one compartment containing the request form and the other the specimen. See:

http://webarchive.nationalarchives.gov.uk/+/http://www.dft.gov.uk/426155/425453/800_300/infectioussubstances.pdf

Where a needle has been used to obtain the specimen, the needle **must not** be included in the packet transported to the laboratory.

Packaging of “High Risk” Specimens

Specimens from patients in the “infection risk from blood” category should be placed in the appropriate specimen container, which must be securely fastened and any accidental spillage cleaned immediately. This should be placed in a clear plastic double (“marsupial”) self-sealing bag with one compartment containing the request form and the other the specimen. The specimens should then be placed in a second (outer) plastic bag and appropriately labelled. All specimens and forms should be clearly labelled to indicate the nature of the risk.

Transport of specimens

Specimens should be transported to the laboratory in a robust, lidded, washable transport box. Do not use ordinary envelopes or “jiffy” bags for transportation. Do not staple or puncture polythene bags.

16 Teaching and training

The Newcastle PHE laboratory is happy to accept visitors for short or long periods of demonstration and training. Trainee medical and scientific staff who require experience in laboratory procedures such as pathogen detection, identification and fingerprinting techniques are welcome. We occasionally run short courses in basic diagnostic techniques for the laboratory diagnosis of infections.

We also welcome involvement in research or surveillance programmes.

The range of services available from the PHE Laboratory is under continual review. We are happy to discuss any requests not detailed in this handbook.

This document is available in other
formats on request.

Please call: 020 8327 7018

or email: publications@phe.gov.uk

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