Infection Division

Microbiology Cardiff

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Microbiology User Handbook SE Wales

See separate spreadsheet for Scope of Tests

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1. Introduction

Public Health Wales provides diagnostic microbiology testing for South-East Wales, based within University Hospital of Wales, Llandough Hospital, IP5 and Wales Genomic Health Centre (Coryton). Public Health Wales also operate hot lab services at Llandough and Prince Charles Hospitals within this region.

Regional Laboratory Manager	Lisa Chichester	Lisa.Chichester@wales.nhs.uk
Regional Clinical Lead	Dr Lim Jones	Lim.Jones@wales.nhs.uk

Public Health Wales Microbiology South-East Wales provides:

- Extensive clinical microbiology diagnostic service, including Bacteriology, Mycology, Virology, Serology/Molecular, and Parasitology to primary and secondary care across Cardiff and the Vale.
- Clinical infection management service including antibiotic stewardship.
- Infection prevention/control services and advice to Cardiff and Vale University Health Board and Velindre NHS Trust.
- Welsh/UK reference services for mycobacteriology, virology, serology/molecular, mycology, Pathogen Genomics, anaerobic bacteria, and antimicrobial chemotherapy: User information available via Public Health Wales website*: Microbiology services - Public Health Wales
- Epidemiological data for the Communicable Disease Surveillance Centre (CDSC) and support to Consultants in Communicable Disease Control (CCDC) in the investigation of outbreaks of infectious disease.
- Environmental microbiology services (including food, milk, and water) to local environmental health departments, private customers and Cardiff and Vale University Health Board.
- Rapid access to all national reference laboratory facilities through Public Health England.

Each laboratory within Public Health Wales Infection Division is a UKAS accredited medical laboratory No.9510.

Food, Water and Environmental Cardiff is a UKAS accredited testing laboratory No. 1591.

The remainder of this document focusses on the clinical microbiology services. Please see PHW website for further details on our FWE services.

For repertoire of clinical testing services available including accreditation status, turnaround times, any special instructions such as patient preparation & guidance for patient-collected samples; rejection criteria, and limitations/factors affecting test performance, please refer to Scope of tests spreadsheet.

Scope of tests spreadsheet included as an attachment.

2. Location of Laboratories

PHW South-East microbiology services operate over multiple sites:

- **UHW** - services for bacteriology, virology, mycology, Specialist Antimicrobial Chemotherapy Unit (SACU), and the Anaerobe Reference Unit (ARU).
- **IP5** – some WSVC services.
- **Llandough** - specialist services for Mycobacteriology and Environmental microbiology.
- **Coryton** – Pathogen Genomics service.
- **Hot labs** - Rapid diagnostic services are available for specific patient cohorts in Llandough and Prince Charles Hospitals.

2.1 Public Health Wales Microbiology Cardiff, University Hospital of Wales, Heath Park, Cardiff CF14 4XW

DX6070100, Cardiff 90CF

Telephone: (029 218) 44515/42177.

1st Floor Tower Block 2, accessible from pathology staff entrance Academic Avenue or via corridor leading from C block lift area.

2.2 Public Health Wales Microbiology Cardiff, Unit IP5, Celtic Way, Imperial Park, Newport, NP10 8BE

DX411101, Newport Gwent 23

Telephone: (01633) 849980

This site is only accessible by designated PHW staff unless by arrangement with the appropriate team, and directions will be provided as needed.

2.3 Public Health Wales Microbiology Cardiff, Llandough Hospital, Penlan Road, Llandough, Penarth CF64 2XX

WCM:

DX6070400 Penarth 90CF

Telephone: (029 218) 16408

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WCM is located to the rear of the hospital site within a separate block downstairs from the Dietetics Unit.

Hot lab:

DX: N/A

Telephone: (029 218) 24351

The Hot Lab in Llandough is located within the Blood Sciences laboratory area (opposite ward E2).

Clinical advice is available at UHW for both UHW and Llandough sites, for contact numbers see section 4.

2.4 Public Health Wales Microbiology, Pathogen Genomics Unit (PenGU). Wales Genomic Health Centre, Cardiff Edge Business Park, Longwood Drive, Whitchurch, CF14 7YU.

DX 425501, CARDIFF 53.

Telephone: (029) 218 34010.Pengu.lab@wales.nhs.uk

Visitors will need to announce themselves to reception and be signed in and given a visitors badge as needed. All visitors will be collected from reception and escorted to the laboratories as required.

2.5 Public Health Wales Microbiology Hot Lab, Prince Charles Hospital, Gurnos Road, Merthyr Tydfil CF47 9DT

DX: N/A

Telephone: (01685) 728728

This hot lab is situated on the first floor within the Cwm Taf Morgannwg Pathology department, providing rapid diagnostic services for patients in Prince Charles Hospital. Operationally, it sits within Cardiff Microbiology.

3 Laboratory Operational Times

Please note: the Hot Labs in Llandough and Prince Charles are currently operating from 08.00-22.00, 7 days a week. This includes weekends and Bank Holidays.

Rapid testing is available after 10pm at UHW. Please follow guidance below for transport arrangements for urgent samples from UHL to UHW. Please do not send urgent samples to the Hot Lab after 10pm.

3.1 Routine Service

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All laboratories provide a routine service between Monday and Friday 08.30 – 17.00 (excluding Bank Holidays). The full routine diagnostic testing repertoire is provided during this time.

Note: For urgent requests during normal laboratory hours, please telephone the laboratory to ensure priority processing.

UHW Hot Lab:

Rapid samples are processed in the UHW hot lab 24/7. Please POD samples directly to POD station number 415 for timely reporting of results. Note there is a 4-hour turnaround time for these tests and results will be available on the clinical portal when completed. Please do not contact the laboratory for results unless the 4-hour turnaround time has been exceeded or to notify the laboratory that samples are being sent for as all samples will be processed immediately upon receipt in the laboratory.

3.2 Weekends and Bank Holidays

A limited service is available on Saturdays, Sundays and Bank Holidays as follows:

Cardiff Bacteriology:

Saturday: Urgent work only between 08:30 -17:00hrs – Use on-call service after 12:00 to contact the lab.

Sunday: Urgent work only between 08:30 -17:00hrs – Use on-call service after 12:00 to contact the lab.

Bank Holidays: Urgent work only between 08:30 -14:00hrs – Use on-call service to contact the lab.

Cardiff Virology:

Saturday: Urgent work only between 09.00 – 17.00, emergency on-call outside of these hours.

Sunday: Urgent work only between 09.00 - 14.00. Finish time maybe extended during busy periods, emergency on-call outside of these hours.

Bank Holidays: Urgent work only between 09.00 - 14.00. Finish time maybe extended during busy periods, emergency on-call outside of these hours.

Mycobacterium Reference Lab. Llandough Hospital

Saturday: 09:00 – 12:30 hrs – urgent work only

Mycology Regional Reference Unit

MRRU provides a limited service on weekends, providing (1-3) β – D – Glucan testing.

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No other Reference facilities are available on weekends/bank holidays.

3.3 Emergency on-call service

Microbiology services are provided via the emergency on-call system during the following hours:

Cardiff Bacteriology:

Monday to Friday: 17:00 – 08:30 hrs.

Saturdays: After 12:00 hrs.

Sunday and Bank Holidays: on-call service only all day.

Cardiff Virology:

Monday to Friday: 17:30 – 08:30 hrs.

Saturdays: After 12:30 hrs.

Sunday and Bank Holidays: on-call service only all day.

Note: During these times a reduced service protocol is available. Please refer to section 5 or contact the laboratory for more information.

Reference facilities do not offer an emergency on-call service.

4 Access to Clinical/Technical Advice

4.1 During normal working hours (Monday to Friday 08.30-17.00)

4.1.1 Clinical Advice

Clinical advice is available at UHW for both UHW and Llandough sites and consultation about the investigation and management of infection are welcomed.

For advice on diagnosis and interpretation of microbiology results, antimicrobial use, infection control including the use of isolation facilities, contact the duty medics, via the admin team on (029 218) 44515/42177.

4.1.2 Technical Enquiries (including urgent results)

<u>UHW site:</u>

UK Anaerobe Reference Laboratory	(029 218) 42171
Bacteriology	(029 218) 42043 / 42044
Mycology	(029 218) 42043 / 42044

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Specialist Antimicrobial Chemotherapy Unit	(029 218) 42170
Virology (including IP5)	(029 218) 42178
Llandough site:	
Wales Centre for Mycobacteriology	(029 218) 16408
Food Water and Environmental Service	(029 218) 45296/ 45297
Coryton site:	
Pathogen Genomics Unit (PenGU)	(029 218) 34010
Hot Labs:	
Llandough	(029 218) 24351
Prince Charles	(01685) 728 728

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4.1.3 Contact details for key staff

Name	Role/Specialism	Telephone No.	Email Address
Dr Robin Howe	Professional Lead and Consultant Microbiologist	029 2167 4991	Robin.howe@wales.nhs.uk
Dr Lim Jones	Regional Clinical Lead/ SACU clinical lead Consultant Microbiologist	029 218 44515	Lim.Jones@wales.nhs.uk
Dr Susie Froude	Consultant Microbiologist/ Virology Clinical Lead	029 218 44515	Susannah.froude@wales.nhs.uk
Dr Harriet Hughes	Consultant Microbiologist /ARU Clinical Lead	029 218 44515	Harriet.hughes@wales.nhs.uk
Dr Rishi Dhillon	Consultant Microbiologist /Llandough Infection Control (based on UHW site)	029 218 44515 029 218 47394	Rishi.dhillon@wales.nhs.uk
Dr Jaisi Griffiths	Consultant Microbiologist	029 218 44515	Jaisi.griffiths@wales.nhs.uk
Dr Brendan Healy*	Consultant Microbiologist	029 218 44515	Brendan.healy@wales.nhs.uk
Dr Gavin Forbes	Consultant Microbiologist/UHW Infection control	029 218 44515	Gavin.forbes@wales.nhs.uk
Dr Bazga Ali	Consultant Infectious Diseases & Microbiology	029 218 44515	Bazga.ali2@wales.nhs.uk
Dr Matthijs Backx	Consultant Microbiologist PenGU Clinical Lead/ WCM Clinical Lead/ MRRU Clinical Lead	029 218 44515 029 218 42161	Matthijs.backx2@wales.nhs.uk
Dr Owen Seddon	Consultant Microbiologist	029 218 44515	Owen.seddon2@wales.nhs.uk
Dr Gwennan Jones	Consultant Microbiologist	029 218 44515	Gwennan.jones2@wales.nhs.uk
Dr Donall Forde	Consultant Microbiologist	029 218 44515	Donall.forde@wales.nhs.uk

Samantha Ray	Advanced Nurse Practitioner	029 218 47888	Samantha.ray@wales.nhs.uk
PCH Site: Mohammad Abrishami Rupali Rajpurohit Soma Gaur Alexandra Tsitsopoulou	Consultant Microbiologists	01443 443343	Mohammad.Abrishami@wales. nhs.uk Rupali.Rajpurohit@wales.nhs.uk Soma.Gaur@wales.nhs.uk Alexandra.Tsitsopoulou2@wales.nhs.uk
Victoria Daniel	Infection Control Scientist	029 218 48896	Victoria.daniel@wales.nhs.uk
Hanora "Yvonne" Hyde	Senior Infection Control Nurse	029 218 47394	Yvonne.hyde@wales.nhs.uk
Infection Control (See above for Dr Rishi Dhillon and Dr Gavin Forbes.)	Control (PA to Senior Nurse-Administrator-Data officer and Nurses contact)	029 218 46703	
Infection Control Nurses	(Llandough site)	029 218 16261 / 15512 (If calling internally 26261 / 25512)	
UHW Site: Trefor Morris Shanine Mitchell Prof Lewis White Dr Mandy Wootton Jonathan Evans	Head of Unit/Ops Manager: ARU Cardiff Bacteriology MRRU SACU WSVC	 029 218 42171 029 218 42043 / 42044 029 218 42043 / 42044 029 218 42170 029 218 42178	 Trefor.morris@wales.nhs.uk Shanine.mitchell@wales.nhs.uk Lewis.white@wales.nhs.uk Mandy.wootton@wales.nhs.uk Jonathan.evans4@wales.nhs.uk
Coryton site: Dr Sally Corden	PenGU	029 218 34010	Sally.corden@wales.nhs.uk
Llandough site: Dr Jason Evans Deborah Charles	Ops Manager: WCM Food, Water and Environmental Service	 029 218 16408 029 218 45296/45297	 Jason.evans@wales.nhs.uk Deborah.charles@wales.nhs.uk
Hot Labs: Ellen O'Brien Carly James	Ops Manager/Senior BMS: Llandough Hot Lab Prince Charles Hot Lab	 029 218 24351 01685 728 728	 Ellen.obrien@wales.nhs.uk Carly.james@wales.nhs.uk
Rebecca Person	H&S Lead	029 218 42166	Rebecca.person@wales.nhs.uk
Sue Beer	Quality Lead	029 218 48560	Susan.beer@wales.nhs.uk
Angela Short	Training Lead	029 218 48560	Angela.short@wales.nhs.uk

*Please note, Dr Brendan Healy is currently based in Swansea

4.2 Outside of normal working hours

Contact UHW switchboard (029 218) 47747 for:

- Clinical advice (SpR or Consultant)
- Infection control (SpR or Consultant)
- Biomedical Scientist staff for specimen processing

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Please note medical and technical staff, are not generally on-site outside of normal working hours and only a limited range of analyses are available through the emergency service (see section 5) Technical staff are not authorised to provide an out-of-hours results enquiry service.

5 Emergency on-call service protocols

5.1 Emergency specimens – Bacteriology

- Bacteriology on-call Biomedical Scientist (BMS) must be contacted through the hospital switchboard to initiate the processing of any on-call specimen.
- Specimens will only be processed outside normal laboratory hours following contact with the laboratory staff and only if the request meets the agreed criteria for bacteriology as indicated below.
- Arrangements should be made for the emergency samples to be delivered to the Microbiology laboratory reception (usually through portering services), on the First floor. Arrangements for transport of emergency samples from Llandough site are outlined in section 9.0. Please note, samples for Bacteriology must not be dropped to the Blood Sciences' specimen reception as they will not accept responsibility for Microbiology samples. Please ensure samples are delivered directly to the Microbiology specimen reception to ensure testing is completed.
- The results of any emergency work will only be telephoned directly to the requesting clinician or a nominated location. A provisional electronic report will be issued.

The on-call service should only be used for the processing of emergency work and cannot be used to obtain results from samples sent previously.

Only the following samples will be processed on-call:

- Operative specimens such as biopsies or pus.
- Normally sterile tissues/body fluids e.g., CSF, joint fluids, heart valves.
- Urines under 3 years (2 or less) until midnight
- Bronchoalveolar lavage (BAL) specimens and non-directed bronchoalveolar lavage (NBAL) – up until 10pm Mon – Fri.
- Rapid COVID tests.

The following samples will only be processed after authorisation by Clinical Bacteriology medical staff:

- MSU specimens not included in above categories and only if they will alter clinical management.

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- Bronchoalveolar lavage (BAL) specimens and non-directed bronchoalveolar lavage (NBAL) – between the hours of 10pm and 8am Mon – Fri and 5pm – 8am Saturday, Sunday and Bank Holidays.

5.2 Emergency specimens – Virology

- Requests for emergency virology work, initiated after 23.00, require contact with the Consultant Virologist on-call for advice in the first instance. Exceptions: Transplant Coordinators, or Medico-legal specimens with Chain of Evidence.
- Specimens will only be processed outside normal laboratory hours following contact with the laboratory staff and if the request meets the agreed criteria for virology.
- Arrangements should be made for the emergency samples to be delivered to the Microbiology laboratory reception (usually through portering services), or BMS on-call may arrange to collect directly from ward. Arrangements for transport of emergency samples from Llandough site are outlined in section 9. Please note, samples for Virology/ Molecular must not be dropped to the Blood Sciences' specimen reception as they will not accept responsibility for Microbiology samples. Please ensure samples are delivered directly to the Microbiology specimen reception to ensure testing is completed.
- The results of any emergency work will only be telephoned directly to the clinician who requested the work or a nominated clinical colleague.

Note: The on-call service should only be used for the processing of emergency work and cannot be used to obtain results from samples sent previously.

Only the following samples will be accepted for processing on-call:

- Blood for virology screening from organ donors.
- Medico-legal specimens with chain-of-evidence documentation.

For other investigations and for all calls after 23.00 the Consultant Virologist on-call must be contacted for advice in the first instance prior to any request.

Note: No routine out of hour's service is provided by the reference units.

6 Test Requesting/Sample Collection

6.1 General Guidelines

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Requests submitted to and accepted by the laboratory are considered an agreement between the laboratory and the requestor. This includes samples referred from other laboratories.

Samples and accompanying requests (paper or electronic) must be sufficiently labelled to ensure unequivocal traceability of the patient to the request and the sample.

The request must include either direct request of a specific examination or sufficient clinical information to guide testing and subsequent interpretation as needed. Failure to provide the above information may result in the request being rejected and no examinations being performed.

The responsible clinician/clinical team or service and contact details should also be noted on the request in order to direct the results to the appropriate recipient. Failure to do so may lead to the request being rejected or the result being unavailable.

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Specimens should be placed in the appropriate, labelled container which must be securely fastened. This primary container must be placed into a clear plastic bag, sealed, and attached to the request form.

Specimens should be collected as per local procedures and following order of draw for blood tubes where appropriate. This information should be available via the local Trust's resources. Please refer to the Scope of Tests spreadsheet for further collection and handling requirements where relevant, including preparation of patients, amount of sample required, timing of collection, and storage/ transport conditions.

Please alert the laboratory to any deviations from the usual pre-examination procedures, as this could affect the outcome of the test and potentially lead to patient harm.

Please dispose of collection equipment with care – sharps should be disposed of in appropriate containers as per the local sharps policy and infective material should be disposed of as per local waste disposal/infection control policy.

The following notes will help to ensure that the best quality sample is received for testing by the laboratory.

- Blood cultures need to be processed in the laboratory within 4 hours of being taken, so please do not delay in sending these once taken.
- Do not send specimens in non-sterile containers.
- Only use red-top primary urine tubes (test tube) for urine samples for M, C & S. Please do not use these containers for any other Microbiology specimen types. All other specimens should be sent using the appropriate container, as specified in the Scope of Tests spreadsheet.

- Whenever possible, specimens should be obtained before antimicrobial agents have been administered.
- Always send pus for culture rather than a swab of the pus.
- The specimen taken should be representative of the disease process. For example, material swabbed from the opening of a sinus tract is more likely to yield commensal micro-organisms on the skin than would material obtained by curettage or biopsy of the base of the tract.
- Care must be taken to avoid contamination of the specimen by micro-organisms normally found on the skin and mucus membranes. Sterile equipment and aseptic technique must be used for collecting specimens, particularly for those from normally sterile sites.
- Always send isolates on transport swabs or appropriate slopes.
- Material must be transported promptly to the laboratory. Fastidious organisms may not survive prolonged storage or may be overgrown by less fastidious organisms before culturing.
- Please ensure samples such as blood or urine are sent in containers with the appropriate additives for the tests required and that minimum/maximum fill lines are adhered to.
- A list of specimens with advice on appropriate collection procedures is given in the Scope of Tests spreadsheet.
- Please check expiry dates on all specimen containers before use.

Please contact the laboratory for advice if there is any doubt about the best specimen to take or concerning the availability of a test (see contact details in section 4).

6.2 Request forms

- Where available, electronic test requesting via Welsh Clinical Portal/GP portals is preferable over paper request forms. Please consult the online guidance document or contact the local ETR/GPTR implementation team or the laboratory for assistance.
- Current versions of paper laboratory request forms are available through the hospital supplies department. Old versions of the request forms will still be accepted, providing the information below is apparent.
- Reference laboratory request forms can be obtained from the PHW website.

A paper/electronic request must accompany all specimens sent to the laboratory and should state the following information:

- Sufficient information to allow the unequivocal identification of the patient. This should include a combination of the patient's full name, date of birth, hospital/unit number, NHS number or anonymised reference number (e.g., ISH clinic number/donor number etc).
- Requesting location (ward/clinic/GP) and clinician/clinical team.

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- Contact number of the requester for urgent results or communication of delays/problems with testing/clarification of requests.
- Specimen type, including anatomical site of sampling where relevant.
- Date and time of sample collection. Please ensure patients provide this information on self-collected samples.
- Examination/investigations required.
- All relevant clinical details including any anti-microbial treatment (recent, current, and intended), foreign travel, food and occupational history if applicable.
- Date of onset and duration of illness (particularly for virology investigations).
- For antimicrobial assays, the name, date/time of last dose of antimicrobial and the current dosing regimen.

Note: Specimens may not be suitable for testing if they are inadequately labelled so that the patient's identification is in doubt, or if they have leaked or been contaminated. In these circumstances we aim to inform the requesting clinical team prior to disposal wherever possible. This may be in the form of an electronic report.

6.3 Limitations of Microbiological Investigations

It is important to understand the limitations of microbiological investigations & particularly the factors that can affect test results.

- **Appropriate and relevant clinical information**

Please included any relevant clinical information in order for us to best assess the range of microbial pathogens that need to be excluded. The site of infection ('wound swab' is not enough), the date of onset, the type of rash present, any antibiotics that have been prescribed in the last 48 hours, any antibiotic allergy, D&V, recent travel abroad (state country) may all influence the way in which we process specimens and interpret the significance of microorganisms detected. Please write legibly.

- **The most appropriate sample(s)**

If a wound is oozing pus, then a sample of the pus is far superior to a pus swab. On the other hand, we do not have facilities to handle several litres of fluid from a pleural effusion! Wound swabs and genital swabs should be of the appropriate type - charcoal containing transport medium for suspected gonorrhoea; dedicated ROCHE collection containers for swabs or urine for investigation of Chlamydia and gonorrhoea by NAAT testing; charcoal containing transport medium should be used for MRSA screening; dry, red-topped cotton/flocked swabs for PCR on nose/throat swabs. Patients on ITU/HDU with atypical pneumonia should have a urine sample sent for Legionella antigen. Patients with petechial rashes should have an

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EDTA sample sent for Meningococcal PCR. Swabs from chronic leg ulcers are of limited value unless there is cellulitis present.

- **Transport times**

Bacteria/Viruses are living organisms, some of which may multiply in certain specimens e.g. E. coli in urine samples, whereas other more fastidious organisms such as Neisseria gonorrhoeae will begin to die very quickly. As a general rule, all swabs should be processed on the day they are collected, and urine samples must be collected into red topped containers with boric acid preservative.

All specimens should reach the laboratory as soon as is possible. It may be detrimental to the specimen if it is stored overnight, it is for this reason routine samples should not be collected out-of-hours.

- **Serological/Molecular tests**

Wherever possible, commercial assays used are CE-marked and fully verified. In-house assays are validated locally. However, no test is 100% sensitive or 100% specific. To compensate for this, we may use confirmatory tests or reference laboratory tests to confirm our findings.

If the clinical presentation does not fit with our findings, please repeat the test and/or speak to one of our clinical team for further advice.

6.4 Rejection of samples

Common reasons for rejecting samples for testing have been included throughout this document. Specific limitations for certain tests, which may lead to rejection of samples have also been included in the Scope of Tests spreadsheet.

The potential risk and impact on the patient outcome of acceptance or rejection of any sample is assessed on a case-by-case basis. The decision to accept or reject "precious"/non-repeatable samples will be noted on the laboratory report that is issued to the requesting clinical team.

6.5 Requirement for patient consent

The laboratory considers patient consent is implicit when it receives a test request from an appropriate healthcare professional. It is the responsibility of the patient's clinical team to provide explanation of the sample collection procedure, including any associated risks, as well as offering any appropriate counselling and advice to the patient and/or families in relation to the results and treatment options.

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Under the Human Tissue Act patient consent is not required for storage of material for diagnostic purposes for the benefit of the person from whom the tissue was removed during life.

For further information see:

- The Retention and Storage of Pathological Records and Specimens. The Royal College of Pathologists and the Institute of Biomedical Science. (6th edition October 2025)
- Human Tissue Act 2004

7 High risk specimens & safety

Where a patient is known or believed to be high risk there is a requirement on the sender to identify specimens as such according to Health and Safety and Trust policy for the labelling of specimens and the general protection of staff.

Specimens are regarded as HIGH RISK if taken from patients who are known or suspected to be infected with transmissible agents, in particular TB, Hepatitis B virus, Hepatitis C virus, HIV, viral haemorrhagic fever (VHF), MERS-CoV, Smallpox and Creutzfeldt-Jacob Disease (CJD) or from groups with a high prevalence of such infections.

PLEASE NOTE:

If there is clinical suspicion that a patient may have viral haemorrhagic fever (VHF), Creutzfeldt-Jacob Disease (CJD), or smallpox i.e. persons from areas of high rates of endemic infection e.g. West Africa for VHF, China for SARS/ Avian Flu, Middle East for MERS-CoV, the medical officer(s) MUST contact the Microbiology consultant direct, prior to the collection of samples, to ensure appropriate material is collected and the laboratory is forewarned and can give additional advice as necessary.

In addition to the normal labelling requirements these samples must be labelled as HIGH RISK using the appropriate yellow sticker "DANGER OF INFECTION" or "HIGH RISK" on the container and the request form. The specimen should be placed in a Biohazard bag.

Samples from these patients MUST be discussed before being taken to ensure that labelling and transport is appropriate.

8 Transport and Receipt of Samples

8.1 Specimen Transport

Generally, specimens will be transported around the hospital in a designated transport carrier designed specifically for the purpose. Specimens transported between sites and from other external sources must

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meet the health and safety regulations, minimum standards set for transport of pathological specimens.

8.1.1 Transport arrangements for specimens within University Hospital of Wales

Specimens are usually collected and transported to the laboratory by the hospital portering services, however it may be necessary to make specific requests or alternate arrangements for delivery of urgent samples.

Blood culture specimens should be processed in the laboratory within 4 hours of being taken, so please do not delay in sending these once taken.

Hospital samples (including plastic blood cultures) can be transported via the pneumatic tube (POD) system.

Microbiology POD number: 415

If the POD system is unavailable, please deliver directly to Microbiology Specimen Reception, 1st floor tower block 2 (at the end of the C1 link corridor).

Do not deliver any urgent samples to Pathology Specimen Reception (located on the upper ground floor, B block) either directly or via POD as this will delay patient results.

Note: The Bacteriology or Virology BMS on-call must be contacted prior to sending emergency specimens, to clarify transport and reception details and ensure staff are available to process the work.

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8.1.2 Transport arrangements for specimens - Llandough Hospital

Specimens are generally collected and transported to Microbiology Llandough by the hospital portering services, however it may be necessary to make specific requests or alternative arrangements for delivery of urgent samples. Specimens are regularly collected (hourly from 09.30 to 17.00, with one further late collection at approx. 22:45) from Llandough by courier and delivered to Microbiology reception UHW.

At weekends and bank holidays Microbiology samples from Llandough may be transported to UHW with the Blood Sciences transport. The 22:45 collection from Llandough to UHW operates 7 days a week.

Emergency Specimens Llandough (including rapid testing after 10pm)

Specific transport arrangements are in place to ensure prompt receipt and processing of emergency specimens from Llandough site. Contact the on-call BMS to initiate the service to avoid confusion and delay in handling the emergency.

The guidelines require the following:

- Ward to contact Llandough portering services for specific specimen packaging materials.
- Ward to contact the BMS on-call, who will be alerted to the requirement for emergency investigation and will arrange specimen transport from Llandough to UHW.
- Ward to organise transport of emergency specimen to porters' desk/main reception
- Collection of specimens from Llandough by medical courier and delivery to UHW.
- Processing of specimen at UHW by microbiology on-call staff.

Note: It is essential that the ward or medical staff do not arrange specimen transport directly as this will lead to inappropriate transport arrangements and inevitable delays in receipt and processing of specimens, which may compromise emergency service delivery.

Please do <u>not</u> send urgent bacteriology specimens to the Hot Lab.

8.1.3 Transport arrangements for specimens - Prince Charles Hospital

Specimens are usually collected and transported to the laboratory by the hospital portering services, however it may be necessary to make specific requests or alternate arrangements for delivery of urgent samples.

Blood culture specimens should be processed in the laboratory within 4 hours of being taken, so please do not delay in sending these once taken.

Hospital samples (including plastic blood cultures) can be transported via the pneumatic tube (POD) system which is situated in the Biochemistry laboratory.

Biochemistry POD number: 900

If the POD system is unavailable, please deliver directly to Pathology Reception, 1st floor, Pathology Department. Samples can be dropped through the hatch.

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The Portering service and City Sprint couriers have set transport times to deliver Microbiology samples from Prince Charles to Royal Glamorgan Hospitals from Monday to Friday between 7am- 5pm.

Blood Bikes have set transport times on weekends and Bank Holidays from 7am-7pm.

Transport to IP5 and Coryton is arranged by Microbiology.

8.1.4 Transport arrangements for specimens from outside the hospital

Transport for specimens from GP surgeries and clinics within the hospitals' catchment area are arranged by the pathology department University Hospital of Wales in conjunction with district transport services and Ambulance Services (C&V UHB) or HCS Couriers (PHW).

Specimens may also be received by post provided that the packaging meets the Post Office regulations for transport of pathological material. Patients may also deliver specimens directly to the laboratory reception areas (For advice contact Public Health Wales Laboratory Manager, Microbiology, Cardiff, UHW, via 029 218 44515).

8.1.5 Referral of samples from other Welsh laboratories to Wales Specialist Virology Centre

Testing for IP5 will be referred on from WSVC.

For patient safety and quality assurance purposes, samples referred to WSVC for Virology/Serology/Molecular testing, from other laboratories in Wales must have certain pre-analytical stages completed in the requesting laboratories. As a minimum, this should include assessment of sample suitability (e.g. correct patient details, appropriate sample types and volumes), labelling of the request form and sample with an episode number and registration of the sample and tests required on the Laboratory Information Management System (LIMS). Test requests must also be electronically transmitted via the Send Tests module in LIMS.

For further information or guidance related to specimen transport arrangements at particular sites, including POD systems, please contact the laboratory.

Specimens may also be received by post provided that the packaging meets the Post Office regulations for transport of pathological material.

8.1.6 Referral of samples from other Welsh laboratories to PenGU.

Referring laboratories outside of Cardiff should use DX to transport samples to PenGU. Please ensure appropriate request form is included with any samples/extracts sent.

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A courier service operating 3 times a day is set up to transport samples from Cardiff laboratories (UHW, UHL & IP5) to PenGU at Cardiff Edge Business Park.

DX drop box is located outside the main entrance to Wales Genomic Health Centre. Courier service delivers samples direct to Specimen reception, via Delivery Bay entrance.

8.1.7 Referral of samples from other Welsh laboratories to ARU, SACU, MRRU and WCM.

Please refer to website for up-to-date information.

8.2 Receipt of samples University Hospital of Wales

Microbiology Cardiff reception area is located in the centre of the laboratory close to first floor C block link corridor, adjacent to the pathology staff entrance stairwell.

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8.2.1 Normal Working Hours

During normal working hours, **all** specimens should be taken to the Microbiology specimen reception area.

8.2.2 Outside Normal Working Hours

All non-urgent specimens may be left in the outer area of the microbiology specimen reception.

- Blood cultures must be placed in the identified cupboard in the outer reception area.
- Other blood samples, urines and other specimens should be placed in the identified refrigerator in the outer reception area.
- For urgent specimens, contact the Bacteriology or Virology BMS on-call through the hospital switchboard (See section 4.2 for out of hours sample arrangements).

For receipt of samples from outside the hospital see general transport arrangements (Section 9.1)

8.3 Receipt of samples Llandough Hospital

8.3.1 Normal Working Hours

During normal working hours, **all** specimens should be taken to the Microbiology Dept.

8.3.2 Outside Normal Working Hours

- All non-urgent specimens may be left for collection by the porter's at Llandough who must transport them to Microbiology UHW the next morning.

- For urgent specimens, contact the Bacteriology or Virology BMS on-call through the hospital switchboard. (See section 4.2)

Outside normal working hours arrangements will need to be made for emergency specimens to be delivered to the porter's lodge for collection by a medical courier organised by the laboratory on-call staff (see section 9.1.2)

For receipt of samples from outside the hospital see general transport arrangements (Section 9.1)

8.4 Retention of Samples

Samples are retained for a limited period for further tests and retrospective checks. Please contact the laboratory for relevant specimen retention times if required.

COMPLIANCE WITH THE HUMAN TISSUE ACT - Submitting tissue samples from deceased patients:

PHW Microbiology is not licensed by the Human Tissue Authority (HTA) to store tissues from deceased patients. Post-mortem samples are submitted to the laboratory by coroners or pathologists for examination to help them determine the cause of death. Obtaining consent to remove, store and use human tissues for a scheduled purpose is one of the underlying principles of the Human Tissue Act.

Unless the laboratory is informed that consent has been obtained or the coroner has requested that samples are retained for further testing, any residual sample will be disposed of on completion of testing and after the final report has been issued. Please note blood samples are exempt from this and will be stored according to normal laboratory protocols.

9 Results & Reporting

For expected processing/turnaround times for routine work, please refer to the Scope of Tests spreadsheet.

- Reports on authorised, completed work are available electronically on the Welsh clinical portal or other Hospital system and via GP links
- Most bacteriology culture results are reported after 2-5 days, depending on the investigation.
- Serology/immunology and virology reporting depends on the frequency of testing and the urgency of the request.

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- Mycology Results reports can take up to 21 days dependent on investigation.
- Results of urgent requests and results that may aid immediate patient management will be telephoned by the laboratory. This includes all positive blood cultures, cerebrospinal fluid and sterile site fluids.
- Results of a highly confidential nature such as HIV/Hepatitis B will not normally be issued over the telephone.
- Requests for urgent results should be made using the contact numbers identified in section 4.

Please note the microbiology department will not transmit reports by FAX due to the sensitive nature of the information and limitations of data protection regulations.

9.1 Notification of delayed results

If the issuing of results is delayed beyond the expected turnaround time, we will attempt to notify the relevant clinical teams where the delay is deemed to create a risk to adversely affect patient management.

9.2 "Urgent Specimen" definition

Specimens will only be considered as urgent when requested by phone, bleep, by a microbiology medic or using a specifically designed red sticker (where available).

These specimens will be processed within two hours of receipt in the laboratory, where possible.

The specimen must be delivered from source to the laboratory within two hours, where possible.

Please note these times are guidelines only and may differ per laboratory and test set.

This is not applicable to reference laboratories. Where necessary their definition of 'urgent' will be posted on website or in user handbooks.

10 Protection of Personal information

The laboratory acts in compliance with the Caldicott and Data Protection Act Principles in respect of personal identifiable information and the protection of other sensitive material where disclosure may be inappropriate. This requires all organisations handling personal information to comply with a number of important principles regarding privacy and disclosure.

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The Data Protection Act states that anyone who processes personal information must comply with eight principles. These state that information must be:

- Fairly and lawfully processed.
- Processed for limited purposes.
- Adequate, relevant, and not excessive.
- Accurate and up to date.
- Not kept for longer than is necessary.
- Processed in line with individuals' rights.
- Secure.
- Not transferred to other countries without adequate protection.

The Act also allows people to find out what personal information is held about them. This could be on computer or on paper records.

Confidentiality of information requires that all persons working within the NHS who record, handle, store or in any capacity deal with confidential or person-identifiable information have a duty to maintain that confidence. That duty of confidence continues even after the death of the patient or after an employee or contractor has left the Organisation.

All employees have a recognised confidentiality agreement as part of their working contract. It is the responsibility of all staff to adhere to this agreement when dealing with any confidential information, in any format.

All staff are required to undertake mandatory information governance training every two years and are bound by the NHS Wales Information Governance Policy and Public Health Wales policies and procedures that require that staff and contractors also adhere to the requirements of the Data Protection Act 1998 and to Caldicott principles

Patient information is only accessible to authorised staff and will only be shared outside of the organisation when strictly necessary for patient care and with trusted organisations, such as specialist and referral laboratories. See section [11] for further information about referral laboratories.

11 Referral tests

Whilst the majority of routine testing can be completed at one of our laboratories, some specimens may need referral for confirmatory or specialist tests outside of the PHW Microbiology network.

The suitability of referral laboratories used are reviewed on an annual basis, auditing performance indicators such as turnaround time compliance as well as accreditation status.

12 Feedback & Complaints

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PHW Microbiology welcomes your feedback to ensure we are providing the most suitable service for our users and, as a result, the patients. Please let us know what we are doing well as well as where you feel we could make improvements by completing our Microbiology User Feedback survey.

If a particular member of staff or department deserve recognition, please leave them a compliment.

Please note: the Microbiology user feedback survey is designed to be completed by healthcare personnel and not patients or members of the public. Please do not share these links with members of the public.

Voicing a concern or complaint allows us to investigate and learn from your experiences and improve the services we offer here in Public Health Wales. If the laboratory team cannot help to resolve your concern, details of how to make a complaint can be found here: Compliments, feedback and complaints - Public Health Wales

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Appendix 1 Guidance for patient-collected samples

Collection of MSU/Clean Catch urine

The procedure needs to be explained to the patient.

Ask the patient to wash their hands before commencing the procedure. Ideally the sample should be collected early in the morning (concentration effect) and when the patient has a full bladder.

Female patients need to first separate the labia (prewashing the area gently with soap and water ensuring the washing/drying is completed "front to back" also helps prevent contamination).

The patient then commences voiding and after the initial flow should stop voiding urine, place the sterile urine pot (red topped boric acid urine collection tube) into the position of the flow or pass urine into a suitable sterile receptacle and then fill the urine collection tube to the mark (patients may require assistance with this).

The patient can then complete voiding into the toilet. If the patient cannot control voiding in this way the urine pot or sterile receptacle should be plunged into the urine flow and filled to the mark (so called "clean catch" sample).

Any splashes on the outside of the urine pot should be dried and the patient details applied to the label.

For male patients the collection method is the same overall, but it is essential to retract the foreskin and preferably cleanse the glans penis before sample collection begins.

Please ensure an accurate date of sample collection is handwritten on the request form. Failure to do so may result in the sample being rejected if the age of the sample cannot be determined.

Samples should be delivered and transported to the laboratory as soon as possible.

Collecting a stool sample

The procedure needs to be explained to the patient

<u>To collect a stool sample:</u>

- label the provided CE marked leak proof container with your name, date of birth and the date of sample collection.
- place something in the toilet to catch the stool, such as a potty or an empty plastic food container, or spread clean newspaper or plastic wrap over the rim of the toilet
- make sure the sample doesn't touch the inside of the toilet
- use the spoon or spatula that comes with the container to place the sample in a clean screw-top container and screw the lid shut
- aim to fill the provided container to around a third full.
- put anything that you used to collect the sample, including newspaper or clingfilm) in a plastic bag, tie it up and put it the bin
- wash your hands thoroughly with soap and warm running water

<u>Storing a stool sample:</u>

Stool samples should be delivered as soon as possible if this is not possible it may be stored in a fridge, but for no longer than 24 hours. Place the container in a sealed plastic bag first.

Faecal specimens requiring parasite investigation require a fresh, unpreserved specimen which should be transported immediately.

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