Shropshire Community Health
NHS Trust

Document Details	
Title	Collection, Packaging, Handling, Storage and Transportation of Laboratory Specimens
Trust Ref No	1237-63925
Local Ref (optional)	
Main points the document covers	To provide staff with safe systems for the collection, handling, storage and transportation of specimens
Who is the document aimed at?	All staff who are in contact with specimens.
Author	Deputy Director of Nursing, Quality and Infection Prevention and Control
Approval process	
Who has been consulted in the development of this policy?	This policy has been developed by the IPC team in consultation with appropriate senior Operations and Quality managers, Locality Clinical Managers, Specialist Nurses, Medicines Management and Public Health England
Approved by (Committee/Director)	Infection Prevention and Control Committee
Approval Date	18 March 2024
Initial Equality Impact Screening	Yes
Full Equality Impact Assessment	N/A
Lead Director	Director of Nursing Clinical Delivery, Workforce and Infection Prevention and Control
Category	Clinical
Sub Category	Infection Prevention and Control
Review date	Three years from date of approval
Distribution	
Who the policy will be distributed to	IPC Operational Group Meeting members, IPC Committee members
Method	Electronically to IPC Operational Group Meeting members and available to all staff via the Trust website
Document Links	
Required by CQC	Yes
Keywords	

Amendments History		
No	**Date**	**Amendment**
1	September 2020	Removal of Appendix one – Transport of specimens and post collection points and times throughout SCHT, Appendix one – Coronavirus swabbing procedure added Links to check to protect swabbing procedure
2	January 2024	Reviewed

Contents

1 Introduction

Laboratory tests may be required for patients to receive appropriate treatment and care. Specimens should be collected properly and promptly to enable laboratory results to be feedback to clinical teams and patients. Accurate laboratory reports will only be possible if specimens are collected and if accurate patient details are provided with the request.

All specimens have the potential to contain substances that are infectious The main principle of safety is to package and label all specimens in such a manner that they present no threat to those sending, transporting or receiving them. However, when it is known that a specimen contains a serious hazard in the form of an infectious agent then it is prudent that a higher than normal standard of packaging, labelling and transport be applied. All staff involved in these procedures must adhere to standard infection prevention and control precautions to minimise exposure when obtaining, handling and transporting specimens.

Specimens must be transported in accordance with the Carriage of Dangerous Goods Regulations (2004)

2 Purpose

Ensure the safe collection and handling of specimens.

Ensure that staff only collect specimens if they are trained and competent to do so.

3 Definitions

Term/ Abbreviation	Explanation / Definition
CSU	Catheter specimen of urine
HIV	Human immunodeficiency virus
HSE	Health and Safety Executive
IPC	Infection Prevention and Control
MRSA	Meticillin-resistant *staphylococcus aureus*
NICE	National Institute for Health and Clinical Excellence
PPE	Personal protective equipment
RCA	Root Cause Analysis
SaTH	Shrewsbury and Telford Hospitals
SCHT	Shropshire Community Health NHS Trust
SENDS	Safety Engineered Needle Device Systems
TB	Tuberculosis (*tubercule bacillus*)
Specimens	A sample, of e.g. tissue, blood, sputum, faeces, urine and cerebrospinal fluid (CSF), used for analysis and diagnosis.

4 Duties

4.1 Responsibility for Infection Prevention and Control (IPC) outside the immediate scope of this policy

For duties and responsibilities for IPC practices outside the specific scope of this policy, please refer to the IPC Arrangements and Responsibilities Policy on the Staff Zone SCHT Staff Zone (shropcom.nhs.uk).

4.2 IPC Duties specific to this policy

4.2.1 Staff

Any staff member who is responsible for handling specimens has duties under the Health and Safety Executive . Health and Safety at Work etc. Act 1974 and the Health and Safety Executive. (2002) Control of Substances Hazardous to Health Regulations, HSE London.

The person obtaining the specimens is responsible for ensuring that they are collected in a safe manner, contained to avoid spills and prevent external contamination of the container.

If a specimen is suspected or known to present an infectious hazard, the person taking the specimen has the responsibility to ensure that the form and containers are labelled as such.

All staff have a personal and corporate responsibility for ensuring their practice and that of staff they manage or supervise comply with this policy.

4.2.2 Estates Department

The Estates Department is responsible for ensuring that the waste management policy is kept up to date and available in all areas.

4.2.3 Pathology Department

Whilst the laboratory gives guidance and advice on the correct way to collect, handle and package specimens, it remains the prime responsibility of the user/sender to collect and package specimens according to the relevant legislation and local procedures currently in force. The Pathology Department reserves the right to refuse acceptance of specimens which have not been packaged or labelled in accordance with current regulations and which pose a hazard to its staff, the general public, couriers or other Health Care Workers.

All those who collect, handle, send or transport specimens to pathology laboratories must ensure that the container used is the appropriate one for the purpose, is properly closed and is not externally contaminated by the contents.

5 Procedure

5.1 Labelling Procedure

Specimens should be labelled (see below) and transported correctly (HSE 2017). It is essential that confidentiality is maintained at all times and that sensitive information is not revealed unnecessarily.

Specimens should be requested using the dedicated forms e.g. microbiology/haematology forms.

When Norovirus is suspected during outbreaks of diarrhoea and vomiting, virology should also be requested on the microbiology specimen form.

Urine specimens should NOT be labelled as e.g. ‘positive dipstick’

Appropriate forms and specimen containers are available from the laboratory, GP practices or via supplies/stores orders. Accurate information should be entered on the forms to ensure patient and specimen identification. Samples and request forms from a patient must be collected, labelled and packaged individually**, i.e. one at a time into individual packets and where possible in the presence of the patient, after confirming their identity.**

It is essential that the samples are **not** collected and taken to a central point for labelling and packaging. This is to avoid the risk of mixing samples from other patients.

Staff should not transport or store specimens in their pockets whilst they are awaiting labelling.

Samples which do not conform to the Pathology specimen guidance will be rejected.

The following patient information will be required dependent on location i.e. Home/Hospital/Clinic:

- Patient's full name
- Hospital ward or home address or care home address
- NHS number
- Patients hospital identification number
- Date of Birth
- Test(s) requested
- Specimen container (appropriately labelled)
- Date and time of collection
- Relevant patient information e.g. symptoms, previous or intended antibiotics
- Signature

Information should be supplied about the patient's condition e.g. Immuno-compromised, clinical condition, suspected organism if part of an outbreak and if part of routine screening such as pre discharge swabs/ Meticillin-resistant *staphylococcus aureus* (MRSA) screening.

Information about relevant current medication and treatments, e.g. recent antibiotics,

The source of the specimen should be identified e.g. the particular body site,, type of body fluid. The method of collection should be identified e.g. Mid-stream urine (MSU), catheter specimen of urine (CSU). Wound swabs including MRSA screening requests must specify the body site e.g. nose, wound and correct side/limb or area of anatomy.

All specimen containers and request forms must describe the nature of the specimen, the source and any other relevant information to allow the laboratory staff to identify the source

Place the specimen into the container which must be placed in the appropriate plastic bag with the request form in a separate pocket. Consult the microbiology laboratory at Shrewsbury and Telford Hospitals (SaTH) for advice, if required, prior to collecting a high risk specimen.

If the patient is suspected of having a viral haemorrhagic fever, e.g. Ebola, discuss with Public Health England or Consultant Microbiologist at SaTH before obtaining a specimen.

5.2 Specimen Collection

Standard IPC precautions should be applied when obtaining specimens. An aseptic non touch technique (ANTT) should be used to ensure the specimen is not contaminated during collection.

Wash hands prior to and after specimen collection. Wear appropriate personal protective equipment (PPE) e.g. gloves and aprons when collecting specimens or additional PPE based on an assessment of the risk associated with the procedure, e.g.. face protection is required if obtaining a throat swab.

Poorly collected specimens can result in equivocal and/or delayed results with increased patient anxiety, delays in essential treatment and wasted resources. Laboratory staff are required to reject specimens that are poorly collected as results may be unreliable. Inaccurate or inadequate patient information could lead to incorrect patient identification and treatment.

Damaged or leaking specimens will be disposed of by the laboratory staff without any investigation being carried out. The significance of the specimen will be discussed with the requesting clinician. Unlabelled specimens will also be disposed of.

Collect fresh material only from the site of the suspected infection, avoiding contact with the surrounding areas. Prior to collecting swabs from dry wounds or from the nose or other sites, moisten the swab with sterile water.

NB staff should not use saline to moisten the swabs as it may affect the result.

All swab cultures should be obtained with swabs in transport medium.

Following collection, secure the lids immediately to avoid spills and contamination during transport. Ensure that the label is fixed and signed, dated and fully completed prior to filling containers. Ensure the pathology request form identifies the patient's relevant clinical details and tests required.

Do not overfill containers especially faecal containers but ensure there is adequate volume of specimen to avoid a false negative result. Ideally half a pot and note on the request the type of stool using the Bristol stool chart e.g. Type 6.

When taking blood samples, always use a safety engineered needle device system (SENDS) whenever possible, not a needle and syringe, to avoid the risk of needle stick injury. (EU 2013). Ensure that staff competencies have been assessed before undertaking procedures, or staff are supervised carrying out procedure.

Specimens should be transported to the laboratory as soon as possible after collection, labelling and packaging have occurred. Delay could result in deterioration in the specimen.

The Pathology department treats all specimens received as potentially hazardous and applies standard precautions to every specimen as it is essential to remember that there will always be patients or specimens that have not been identified as presenting a particular risk of infection.

If a specimen is suspected or known to present an infectious hazard e.g. the patient is known to be high risk for Blood Borne Viruses e.g. Human immunodeficiency virus (HIV), Hepatitis B virus and bacterial infections e.g. tuberculosis (TB) the person taking the specimen has the responsibility to inform the pathology department and label the specimen container and the pathology form with yellow "High Risk-Danger of Infection" stickers and appropriate clinical alerts in the patient's clinical documentation.

5.2.1 Specimen Collection Procedure

Please follow Royal Marsden Manual of Procedures for the correct collection of specimens

Guidance on how to obtain urine samples can be found in the Trust's Indwelling Urinary Catheterisation Policy including Guidelines for Good Practice in Adults, and Catheter Care Pathway Guidelines number 1242-31095

5.3 Specimen Storage

Specimens must be stored in a separate specimens' fridge at 4 degrees centigrade, in a designated area e.g. sluice room/dirty utility, where available. The fridge should have a min/max thermometer and temperatures must be monitored and recorded daily. The fridge must be cleaned and serviced regularly, in line with planned preventative maintenance..

Specimens must not be stored in a clean clinical treatment room at any time.

Urine should be examined in the laboratory within 2 hours if possible; otherwise it may be stored in a fridge for up to 24 hours as long as the specimen container contains boric acid.

Note that bacteria multiple at room temperature and can give misleading results.

Sputum specimens should be sent to the laboratory immediately as respiratory pathogens will not survive for prolonged periods.

Blood cultures must not be stored in a fridge as they need to be kept at room temperature and must be sent to the laboratory immediately where they can be held in an incubator until processed.

Stool specimens should be examined within 24 hours. Rarely, the laboratory may request a fresh warm stool for parasite studies.

Wound swabs should reach the laboratory on the day that they were taken, but can be stored in a specimen fridge overnight if this is not possible. **Do not** leave specimens over the weekend or bank holidays.

If specimens are taken 'out of hours' they may require refrigeration until transport to the laboratory is available:

If over 12 hours before the sample will be delivered to the laboratory, refrigeration is advised. The only exception is blood cultures and genital samples for gonorrhoea which should be stored at room temperature.

- If C*lostridium difficile* infection or COVID-19 is suspected over the weekend period when no transport is available, the laboratory should be informed and the specimen sent to the laboratory by taxi or preferably by Blood Bikes (see contact details below) and not held in the fridge until transport is available after the weekend
- Urine in borate (red top bottle) and faecal samples do not need refrigeration. However, for practicality of keeping all specimens together, it is recommended that all specimens are refrigerated if transport is not available within 12 hours e.g. at weekend. Place specimens in specimen refrigerator **NOT** food or vaccine refrigerator, to await collection.
- The laboratory will need to be informed that out of hours specimens are being sent.

5.4 Transportation of Specimens

- The specimen **must be** placed in a sealed plastic specimen bag with the form placed in the second compartment to avoid accidental contamination of the form.
- The plastic bag **must then be** placed in a rigid container in a designated secure area until ready for collection.
- The leak proof container must be secured, complying with UN3373 standards Health and Safety Executive (1996) Carriage of dangerous goods (Classification, packaging and labelling) regulations 1996; 2004 updated 2017
- Specimens **must be** transported as above (community staff are currently supplied the Daniels Diagnostic Specimen Container) which meets the UN 3373 regulations.
- The specimen transport container **must** bear a hazard warning label stating that it should not be opened or tampered with.
- The transport boxes **must be** cleaned and disinfected weekly or immediately if contaminated with blood or bodily fluids.
- The transport boxes **must be** secured in the boot of the vehicle during transit.
- The containers **must not** be left unattended, unless in a secure designated area
- Contact Blood Bikes via SaTH laboratory (Switchboard 01743 261000)

Specimens must be transported in accordance with the Health and Safety Executive (1996) Carriage of dangerous goods (Classification, packaging and labelling) regulations 1996; 2004, updated 2017 and United Nations Economic Commission for Europe (UNECE) (2017) European Agreement concerning the International Carriage of Dangerous Goods by Road. [Last accessed 21 November 2017]

Managers must ensure that appropriate rigid containers are available in all patient areas and community clinics if staff are required to carry specimens from clients' homes to General Practitioner (GP) surgery or a local laboratory.

Specimens to be sent by post to specialist laboratories should be sent firstly to the local microbiology laboratory to ensure they are sent in packaging which conforms to the current transportation of dangerous goods regulations. This includes influenza specimens sent to local Virology laboratory who will be responsible for arranging transportation to the agreed laboratory.

Specimens that require posting must be placed in the appropriate container which is placed into a rigid tube that contains sufficient absorbent material in the event of a spillage. The secure specimen can then be placed inside the appropriate padded bag supplied by the post office. Always consult the local laboratory and the post office for advice before sending specimens by post. The Post Office publishes its own guide on the packaging requirements for sending by post via the Royal Mail.

If sending specimens to the laboratory from patients receiving treatment from radioactive source always get advice from the laboratory before collecting the specimen. Specimens from **radioactive sources should not be sent by post.** Specimens from patients who are receiving drug treatment can contain unchanged drug or active metabolites. Specimens and request forms must be appropriately labelled.

Sputum specimens for TB investigations **must not be posted,** but must be sent via internal transport, packaged as directed by the laboratory.

Weekend and out of hours Princess Royal Hospital and Royal Shrewsbury Hospital

Contact laboratory via the Royal Shrewsbury Hospital switchboard on (01743) 261000. Arrangements should be made with the on-call staff via switchboard to ensure receipt of specimens is possible and that specimens are stored in the correct manner.

Laboratory staff will give instructions on the handover of the specimen.

5.4.1 Urgent Specimens

Urgent specimen requests are kept separate from routine requests and should be taken at once to the appropriate laboratory to enable immediate processing.

Telephone the laboratory prior to collecting the sample so they are aware an urgent sample will require processing, telephone numbers can be found in point 5.5.2 above.

Urgent specimens from General Practitioner practices must include a contact number to telephone results back to the clinician, or the patient's telephone number in case the GP practice has closed. In this situation, the laboratory will contact ShropDoc (Shropshire out of hours GP service) with the results, giving them the patient's telephone number, so they can contact the patient if necessary.

Ensure you complete an Urgent Specimen sticker and attach to patient's sample request form prior to sending for processing.

5.5 Spillages of Specimens

The spillage policy must be followed in the event of a spillage.

Drivers or community staff who transport specimens in their cars must have a spillage kit or equipment for cleaning spillages, at their base. In a vehicle, as the specimen must be transported in a specimen transport box the spillage would be expected to be contained within the transport box

5.6 Accident/Injury during the Handling of Specimens

If you sustain a sharps injury while handling specimens, gently squeeze the injury to encourage bleeding, wash injury with soap and water, cover injury with a waterproof plaster

and refer to SCHT 'Prevention and Management of Needlestick Injuries: including Inoculation Incidents and Exposures to Blood Borne Viruses (BBV)' Policy.

6 Consultation

This policy has been developed by the IPC team in consultation with appropriate Locality Clinical Managers, advisors/specialists (e.g., Medical Advisor, Specialist Nurses, Medicine Management), PHE and IPC Operational Group Meeting members.

A total of three weeks consultation period was allowed and comments incorporated as appropriate.

6.1 Approval Process

The IPC Operational Group Meeting members will review this policy and it will then be tabled at the IPC Committee for approval.

7 Dissemination and Implementation

This policy will be disseminated by the following methods:

Staff – digital Staff Noticeboard and IPC newsletters

Awareness raising by the IPC team

Published to the StaffZone of the Trust website

The web version of this policy is the only version that is maintained. Any printed copies should therefore be viewed as 'uncontrolled' and as such, may not necessarily contain the latest updates and amendments. When superseded by another version, it will be archived for evidence in the electronic document library.

8 Advice

Further advice is readily available from the IPC team or the Consultant Microbiologist.

8.1 Training

Managers and service leads must ensure that all staff are familiar with this policy through IPC induction and updates undertaken in their area of practice.

Mandatory IPC training includes Standard Infection Control Precautions. IPC Policies can be found on Staff Zone (Document Library on SCHT Staff Zone (shropcom.nhs.uk)) . Staff may require additional role specific essential IPC training, as identified between staff, their managers and / or the IPC team as appropriate.

9 Monitoring Compliance

Compliance with this policy will be monitored as follows:

- Incident reports relating to specimen collection
- Feedback or reports received from the laboratory

Additional periodic auditing and self-audits by clinical teams

Numbers of staff undertaking IPC training, which includes Standard Infection Control Precautions, will be by the Locality Clinical Managers.

As appropriate the IPC team will support Services' Leads to undertake IPC CCRs/RCAs and PIRs. Managers and Services' Leads will monitor subsequent service improvement plans and report to the IPC Operational Group Meeting.

Knowledge gained from CCR/RCA/PIR and IPC audits will be shared with relevant staff groups using a variety of methods such as reports, posters, group sessions and individual feedback.

The IPC team will monitor IPC related incidents reported on the Trust incident reporting system and, liaising with the Head of Risk and Governance, advise on appropriate remedial actions to be taken.

10 References

BS EN ISO 6710:2017 Single-use containers for human venous blood specimen collection standard by British Standard / European Standard / International Organization for Standardization, 10/03/2017

Department for Transport (2020) Packaging and transport requirements for patient samples-UN3374, https://www.gov.uk/government/publications/packaging-and-transport-requirements-for-patient-samples-un3373/packaging-and-transport-requirements-for-patient-samples-un3373

European Union Council Directive (2010). Health and Safety (Sharps Instruments in Healthcare) Regulations (2013) Prevention from sharps injuries. EU

Health and Safety Executive (2013) Biological agents: Managing the risks in laboratories and healthcare premises: Advisory Committee on Dangerous Pathogens. London. HSE

Health and Safety Executive (1996) Carriage of dangerous goods (Classification, packaging and labelling) regulations 1996; 2004 updated 2017

Health and Safety Executive (1974). Health and Safety at Work etc. Act. HSE. London.

Health and Safety Executive (2013) The Approved List of biological agents: Advisory Committee on Dangerous Pathogens, London. HSE.

Health and Safety Executive (2017) Work with ionising radiation: Approved Code of Practice and guidance. London. HSE

Health and Safety Executive.(2002) Control of Substances Hazardous to Health Regulations 2002 HSE. London

National Institute for Health and Clinical Excellence (NICE) Healthcare-associated infections: prevention and control in primary and community care. Clinical guideline [CG139] Published date: March 2012.Last updated: February 2017 London. NICE

The Royal Marsden NHS Foundation Trust (2017) The Royal Marsden Manual of Clinical Nursing Procedures (9th Edition)

United Nations Economic Commission for Europe (UNECE) (2017) European Agreement concerning the International Carriage of Dangerous Goods by Road.

11 Associated Documents

This guidance should be read in conjunction the following SCHT policies;

- Cleaning and Disinfection Policy
- *Clostridium difficile* Policy
- Indwelling Catheter Policy
- Management of Norovirus and other Gastro-intestinal Infections Policy
- Meticillin Resistant *Staphylococcus aureus* (MRSA) Policy
- Prevention and Management of Needlestick Injuries: including Inoculation Incidents and Exposures to Blood Borne Viruses (BBV) Policy
- Standard Infection Control Precautions: Hand Hygiene and Personal Protective Equipment Policy
- Waste Management Policy