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Review Date: January 2023
Review Lead: Lead Infection, Prevention and Control Nurse

NHS
Calderdale and Huddersfield
NHS Foundation Trust

Section R - Specimen Collection, Handling and Transportation

Version 9

Important: This document can only be considered valid when viewed on the Trust's Intranet. If this document has been printed or saved to another location, you must check that the version number on your copy matches that of the document online.

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Document Summary Table			
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Consultation Committee			
Committee Name		**Committee Chair**	**Date**
Infection, Prevention and Control Committee		Consultant Microbiologist / Infection Prevention and Control Doctor	30 January 2020
Other Stakeholders Consulted			
Pathology Department/Transfusion practitioner			January 2020
Does this document map to other Regulator requirements?			
Regulator details		***Regulator standards/numbers etc***	
N/A			

Document Version Control	
Version 9	Policy in brief removed, key points added and a full review of policy and references, including community updates.
Version 8	A quick reference guide has been added for collecting transfusion samples.
Version 7	References updated and obsolete references removed. Appendix A removed replaced with hyperlink to approved list of biological substances, within section 5.
Version 6	Amendments have been made to include: Hazard group 4 specimens. A change to the type of specimen transfer bags. A change of Blood Culture bottles from glass to plastic.
Version 5	There has been an amendment to the use of infection labels on blood samples for patients with known/suspected HIV/Hepatitis under Section 5 – Hazard Group 3.
Amendment March 2014	Includes an update on specimen collection in viral gastroenteritis outbreak situations.

Version 4	Includes updated documentation and references and updated laboratory information.
Version 3	The document has been redesigned to ensure that all new and revised procedural documents are set out to a Trust wide format and the content of which includes a minimum set of criteria which include: ▪ the training requirements for implementation ▪ monitoring arrangements for the document ▪ Equality Impact of the document In addition, the monitoring arrangements for this document have been included.

Contents

Appendices

1. Introduction

As all specimens may contain micro-organisms capable of causing disease, care must be taken to ensure that they are handled and transported in a safe manner. The policy covers the collection, handling, storage and transportation of specimens.

1.1 Key points summary

- All specimens may contain micro-organisms capable of causing disease, care must be taken to ensure they are handled and transported in a safe manner.
- Infectious agents are categorised FROM 1 – 4 according to the risk of infection to the individuals exposed to the hazard. Category 4 is the highest and contains Ebola.
- RISK of INFECTION labelling Category 3 & 4 samples MUST be labelled as high risk. This is not required for patients known or suspected to have HIV, Hepatitis B, C, D and E.
- Correct specimen collection minimisers the risk of exposure and ensures a quality sample with an accurate result.
- PNUMATIC TUBE SYSTEM: do **not** send specimens in formalin, non-repeatable specimens' e.g CSF, known or suspected Category 3 and 4.
- Hand delivered: specimens not suitable to go in the pneumatic system should be hand delivered to the laboratory.
- Transport boxes must be used to transport samples between sites / from community /by community staff.

2. Purpose

The purpose of this policy is to set out the standard for the collection, handling and transport of clinical specimens by staff of Calderdale and Huddersfield Foundation Trust.

The Trust is committed to the welfare, health and safety of their staff, patients and visitors. As such the Trust will ensure, so far as is reasonably practicable, all employees, patients and visitors to their respective sites are protected from potential biological hazards, that may arise from the collection, dispatch, transportation and receipt of any biological materials.

This policy excludes specimen handling procedures by laboratory staff which are subject to separate protocol. It remains the prime responsibility of the sender to package specimens according to the relevant legislation in force as set out in this policy.

3. Definitions

A specimen is defined as any bodily substance taken from a person for the purpose of analysis, such as blood, urine or tissue.

Samples are transported under the premise of "Standard Infection Control precautions" which assumes all samples are potentially infectious.

4. Duties (Roles and Responsibilities)

This policy applies to all clinical staff and non-clinical staff including porters working in Calderdale and Huddersfield Foundation Trust involved with the collection, handling and transport of clinical specimens.

5. Risk of Infection Labels

All specimens pose a risk of infection. Managers must ensure that safe systems are in operation to prevent health care worker contamination during ***specimen collection***.

However, compliance with Advisory Committee for Dangerous Pathogens (ACDP) guidelines necessitates additional labelling to denote a high risk of infection. The guidance divides micro-organisms into four hazard groups and identifies high-risk patients as those infected (confirmed or suspected) with Hazard Groups 3 and 4 pathogens.

An alphabetical list of organisms can be accessed via the following link:
http://www.hse.gov.uk/pubns/misc208.pdf

Hazard Group 3 – A 'Risk of Infection' label required.

Defined as: An organism that may cause severe human disease and presents a serious hazard to laboratory workers. It may present a risk of spread to the community but there is usually effective prophylaxis or treatment available.

HSE guidance requires that samples taken from patients known or suspected to be infected with a Hazard Group 3 pathogen be identified for the safety of laboratory staff and for those handling and transporting the specimens. All such

specimens (except blood samples from patients with known or suspected HIV or viral hepatitis which have been exempted after local risk assessment) and request cards must have an infection risk label attached (available from Pathology Stores).

Hazard Group 4

Hazard Group 4 pathogens are usually treated **ONLY** within designated specialist treatment centres and **not** usually taken within the Trust; with the **exception** of processing samples for suspected Viral Haemorrhagic Fever (VHF) eg Ebola. Therefore samples would only be taken within the designated treatment areas. i.e A&E; short stay; ICU and following a discussion with a Consultant Microbiologist.

If there is the slightest suspicion of infection with a Hazard Group 4 pathogen, the Infection Prevention and Control Team must be informed.

HSE guidance requires that the laboratory be informed of specimens in advance of collection, these would then be placed into an approved rigid collection/transportation box and secured prior to delivery **by hand.**

Healthcare waste generated as a result of specimen collection from patients with a suspected possibility of Viral Haemorrhagic Fever, must be securely stored pending laboratory analysis. In the event that this is confirmed all waste must be disposed of as Category A infectious waste, otherwise it may be treated as Category B infectious waste.
See: The Safe Handling and Disposal of Healthcare Waste Policy: Appendix A

6. Safe Specimen Collection and Storage

6.1 Prior to Taking a Specimen

Select the correct specimen container, appropriate for the type of specimen - if in doubt contact Pathology. Only use BS 4851 and BS 5213 approved specimen containers, which are available from Pathology.

Personal protective equipment (PPE) should be worn appropriate to the specimen and the risk of contamination from blood or body fluids. Hand hygiene should be used prior to using PPE and following removal of PPE whilst taking specimens.

Ensure patient has given consent for taking of the sample.

Immediately prior to taking the sample, whilst with the patient, scan patient's wristband or where not possible check details of patient's identity with form printed from EPR. (EPR trolleys should not be taken into an infected isolation

room). Use specimen barcode label where possible or if unable i.e. in community, complete ALL sections of the label on the specimen container and the request form, **legibly and fully** at the time of sampling with the patient present. The information on pathology specimens and request forms need to comply with the departmental minimum dataset protocol (see 'Pathology Minimum Data Set Policy' **C-69-2011**).

Blood samples for Group and Screen, Crossmatch and Direct Antiglobulin Test must be collected using the Bloodtrack electronic tracking system for sample labelling. Staff must be trained and competency assessed in the Bloodtrack process to be able to use the system. **See Appendix B – Quick Reference Guide for Collecting Transfusion Samples.**

Affix an 'Infection Risk' self-adhesive label to both the specimen and request form if there is a suspicion or an awareness that the sample is being taken from a patient with a Hazard Group 3 and 4 infection.

Ensure that everything required to take the sample is within easy reach, including a sharps box to dispose of needle and syringe if used, PPE for the collection of urine, faecal and sputum samples and a waste bin for discarding used PPE and other waste into the appropriate waste stream.

6.2 Containing the Specimen

Every effort should be made to avoid contaminating the external surfaces of the container. Where external contamination occurs and a sample cannot be repeated, the external surface of the container requires cleaning. Inform the laboratory to which the specimen is being sent.
The lid of the container should be screwed on tight to avoid leakage.

Specimen request cards should be completed online on the EPR system and printed. Once checked with the details of the patient, this should then be inserted in the appropriate section of the specimen pouch. All specimens must be placed in the opposite side of the pouch and the pouch must be carefully sealed. Most incidents of specimen leakage are due to human error, such as a failure to seal the container or pouch properly.

Once sealed the specimen should be placed in an identified specimen tray or specimen fridge (if appropriate – see Appendix A) awaiting collection. The tray should be away from public areas to prevent tampering and maintain patient confidentiality.

6.3 Faecal specimen collection during suspected viral gastroenteritis outbreak

During outbreak situations on the advice of the infection prevention and control team, faecal specimens should be placed in the normal specimen collection bags with the request forms. They should then be placed in an A3 purple plastic bag which is labeled Infection Prevention and Control.

The purple bags can be obtained from the infection prevention and control team during office hours and will be brought to the ward area during outbreak situations. Out of hours they are available in the infection control cupboards on both sites (key obtainable from site co-ordinator).

The purple bag should then be sent to the lab in the normal way.

It is important that the purple bags with specimens in are not left on the ward area until they are full. All specimens should be sent in a **timely manner.**

The nature/purpose of these purple bags is to highlight to staff that these are outbreak specimens and should be treated in an urgent manner.

6.4 Collection from Wards and Clinical Areas (Non-pneumatic)

The Clinical Manager is responsible for providing a suitable container for the safe storage and must agree where the designated pick-up points are.

The pick-up points must not be in areas where members of the public could read personal information from the specimens/forms, or be exposed to the contents.

If there is a visible leakage the specimen bag must not be picked up by the Porter but the Porter must report this to the Nurse in charge.

On collection, the specimen is placed into an approved rigid container and secured. Once the transport box is secure, it must be kept secure, until the Porter reaches the laboratory. Samples must be stored appropriately whilst awaiting collection (see Appendix A).

6.5 Pneumatic Delivery of Specimens to the Laboratory

A risk assessment must be undertaken of the pneumatic delivery system and the specimens to be delivered by it.

Health care workers using the pneumatic delivery system:

- Must be trained to do so and be aware of the procedures that must be followed

- Must pre-wrap the specimens in accordance with the Standard Operating Procedure
- Must secure the specimen in the leak proof containers provided
- May send new style plastic Blood Culture bottles using the system
- **Must not use the system** for specimens containing formalin
- **Must not use the system** for non-repeatable samples e.g. CSF samples, in case of loss or leakage
- **Must not use the system** for any specimen from patients with possible Group 3 and 4 pathogens. Also samples from patients known or suspected to have:
  - Transmissible Spongiform Encephalopathy (e.g. CJD)
  - Tuberculosis
  - SARS
  - Exposure to biological warfare organisms such as anthrax, plague, smallpox, botulism, tularaemia
- There must be instructions in case of accidents or incidents (including emergency phone numbers) displayed close to the pneumatic delivery system
- If there is an accidental leakage incident in the tube system, a call needs to be logged to the Helpdesk: CRH 4600 or HRI 2805 office hours and ask for an **urgent total shutdown of the system**
- Out of Hours this need to be reported to Estates via switchboard

6.6 Transporting Specimens in the Hospital or externally in community

Transport boxes should be identified as containing “diagnostic specimens” and made of metal or reinforced plastic. Their purpose is to contain any samples in the event of a road traffic accident involving the transportation vehicle

- Transport boxes must not be overfilled and must be closed during transport.

- Transport boxes must be handled and transported in an upright position, secured within the vehicle during transport to preclude any movement during the journey

- For contamination of the transport boxes and spillages, see Section C of the Infection Control Policy Manual, Standard Infection Control Precautions. Otherwise normal cleaning should be carried out as per transport department guidelines

6.7 Specimens Sent by Courier or Post

Wherever possible specimens via post must be packed by laboratory staff who are competent to do so, if in doubt contact the laboratory.

The vast majority of samples are classified as 'diagnostic samples'.

Diagnostic samples (classified as UN3373) must be packaged in a container that meets the requirements of UN packaging instruction P650. The Royal Mail supplies a prepaid, single use, sample container called "Safebox" which meets all standards for transport of diagnostic specimens and is suitable for most primary sample containers.

Infectious samples (classified as UN2814) must be packaged in containers compliant with UN packaging instruction P602. These containers must be purchased specifically for this purpose.

Packaging Requirements for "Diagnostic specimens"

- The primary container must be watertight and leak proof
- The primary container must be wrapped in enough absorbent material e.g. cotton wool, to absorb the contents in the event of breakage
- Several primary receptacles may be placed in a secondary package with enough padding to cushion the specimens
- The secondary package is then placed into an outer wrapping (Royal Mail advise a padded bag) to protect the package from external influences e.g. physical damage or water, while in transit
- The outer package must be labelled 'DIAGNOSTIC SPECIMEN'. The inclusion of the sender's address is good practice

6.8 Leaked or Broken Specimen Containers Arriving in the Laboratory

In order to protect laboratory personnel, leaked or broken specimens will not be processed. The laboratory will contact the sender to confirm if the sample can be repeated before it is destroyed.

If irreplaceable, the laboratory worker will follow laboratory procedure for such incidents.

7. Training and Implementation

Each staff member is accountable for his / her own practice and should always act in a way as to promote and safeguard the wellbeing and interest of patients. Training and information will be provided from a number of sources:

- Trust Induction
- Mandatory Training
- Via Trust Intranet

- Ward / Department Managers
- Infection, Prevention & Control Team

8. Trust Equalities Statement

Calderdale and Huddersfield NHS Foundation Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population and workforce, ensuring that none are placed at a disadvantage over others. We therefore aim to ensure that in both employment and services no individual is discriminated against by reason of their gender, gender reassignment, race, disability, age, sexual orientation, religion or religious/philosophical belief, marital status or civil partnerships.

This policy has been through the Trust's EQUIP (Equality Impact Assessment Process) to assess the effects that it is likely to have on people from different protected groups, as defined in the Equality Act 2010.

9. Monitoring Compliance with this Procedural Document

Compliance with this policy is monitored through error log-in for minimum data set by the Pathology laboratory and reported to the DATs Divisional Board monthly.

10. Associated Reading

This policy should be read in conjunction with the following other policies:

- Hand Hygiene
- Standard Precautions
- Venepuncture
- The Safe Handling and Disposal of Healthcare Waste

Other useful information can be found on the intranet on the pathology pages.

11. References

1 Health and Safety Executive. Advisory Committee on Dangerous Pathogens (2004) 4th Supplement to '**The Approved list of biological agents'** for the purpose of the Control of Substances Hazardous to Health Regulation 2002 Fourth Edition**.** (SI 2002/2677) HSE books: London http://www.hse.gov.uk/pubns/misc208.pdf

2 Health and Safety Executive. Health Services Advisory Committee. (2003) Safe working and the prevention of infection in clinical laboratories and similar facilities. HSE books: London

3 Lawrence, J and May, D eds (2003) **Infection Control in the Community**. Churchill Livingstone: London

4 Management of Hazard Group 4 viral haemorrhagic fevers and similar human infectious diseases of high consequence. **DH** November 2014.

5 The Control of Substances Hazardous to Health Regulation 2002. (as amended) Approved Code of Practice and guidance L5 (sixth edition) HSE Books 2013 ISBN. 9780 7176 6582 2
http://www.hse.gov.uk/pubns/priced/l5.pdf

6 Biological agents: Managing the risks in laboratories and healthcare premises Advisory Committee on Dangerous Pathogens HSE.DoH 2005.
http://www.hse.gov.uk/biosafety/biologagents.pdf

APPENDIX A

COLLECTION AND STORAGE OF MICROBIOLOGICAL SPECIMENS

Specimen	Container	Storage	To arrive in the lab
Wound swab	Blue top swab containing transport medium.	Refrigerate if the specimen is to be stored overnight.	Within 24 hours
Viral swab	Viral transport medium > contact the laboratory to collect viral transport medium.	Room temperature if the specimen is to be stored overnight.	Within 24 hours
Chlamydia swab	Chlamydia kit.	Room temperature.	Within 24 hours
Tissue/pus	White top universal container.	Refrigerate if there is a delay in transport.	Immediately
Urine	Red top boric acid for MC&S White top universal containers may be used for some tests. E.g TB, viral screening.	Room Temperature, unless the specimen is in a universal container in which case refrigerate if the specimen is to be stored overnight. Please note Urine samples for Chlamydia must be stored refrigerated and transported immediately.	Within 24 hours
Faeces	Blue top specimen container.	Refrigerate if the specimen is to be stored overnight.	Within 24 hours
Blood cultures	Blood Culture bottles.	Room temperature.	Immediately - for putting onto Blood culture analyser
Bloods for serology	Brown gel tubes. For specialist tests please see ICE/electronic requesting.	Refrigerate if the specimen is to be stored overnight.	Within 24 hours
Category 4 samples	Liaise with lab staff for guidance	Must be hand delivered and handed over to lab staff.	Immediately. For processing.

Specimen requirements, c/o Calderdale and Huddersfield Microbiology Laboratory Services.

See: Full Pathology Test List on Trust Intranet.

BloodTrack® Tx - Collect Samples

Calderdale and Huddersfield NHS Foundation Trust

Quick reference Guide V1.0

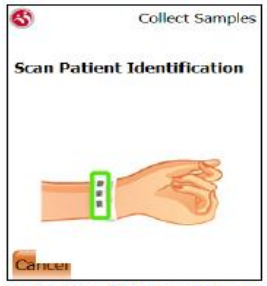
1

Choose **Collect Samples** and turn on the printer

2

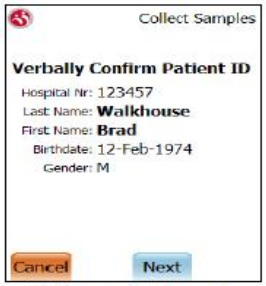
Scan your **ID barcode**

3



Scan the 2D barcode on the patient's **wristband**

4

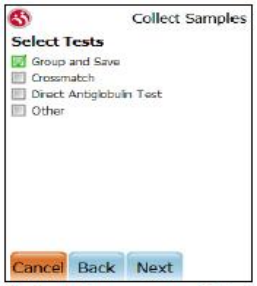


If the patient can't respond, **visually confirm** wristband

5

Complete all **reminders**

6



Select the appropriate **test**

7

Sample must be drawn prior to printing of labels

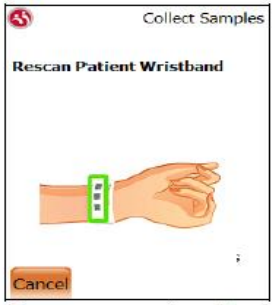
8

Select the **number of labels** to print, then choose **Print** (printer defaults to 2 copies)

9

Scan the **barcode** on the SIDE of the printer

10



To ensure you're still at the same bedside, **rescan the wristband**

11

2 Labels will print automatically. Choose **Done** when finished

12

Attach 1 label to tube, lining **top of label** up with **top of tube label. Attach 1 label to EPR request form**

EPR request form to accompany BloodTrack Tx labelled sample.
****Do not use pink request forms****

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