Specimen Collection, Handling and Transport to the Laboratory

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0 INTRODUCTION

0.1 Scope and purpose

This document gives guidance to users on the collection, handling and transportation of pathology specimens (biological material) to the Pathology Department. It also acts as an index to other sources of information on specimen collection, handling and transport to the laboratory.

0.2 Responsibility

Whilst the laboratory gives guidance and advice on the correct way to collect, handle and transport pathological 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 Dept. reserves the right to refuse acceptance of patients' specimens which have not been packaged in accordance with current regulations 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.

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.

The Out Patient Department is responsible for the Trust's phlebotomy service. Sodexo are responsible for managing the NDHT portering and van delivery/collection service.

0.3 References

- ISO 15189:2012 Standard, clauses 5.4.4 and 5.4.5
- Pathology Department Health and Safety Code of Practice (PATH-1)

TO ACCESS THE LINKS IN THIS DOCUMENT – HOLD THE CONTROL KEY (Ctrl) AND CLICK THE LINK. *Please report broken links to the Pathology Quality Manager 0n 01271 335758*

1 PATHOLOGY SAMPLES/SPECIMENS - COLLECTION & HANDLING

Proper preparation of the patient, specimen collection and handling are essential for the production of valid results by the laboratory.

1.1 Introduction

Note: In situations where specimens are collected by methods that deviate from the information in this document, please inform the laboratory by telephone (Contact Us) or by indicating on the pathology request form (hardcopy or electronic Order Coms form) that accompany the specimens.

This is so that we can include the (alternative specimen collection) information as part of the report, as the way specimens are collected could have a bearing on their integrity and therefore the results that are reported.

1.2 Consent

All procedures carried out on a patient need the informed consent of the patient. For most routine specimen collection procedures, consent can be inferred when the patient presents themselves and willingly submits to the usual collecting procedure, for example, phlebotomy.

Special specimen collection procedures, including more invasive procedures, or those with an increased risk of complications to the patient, (e.g. surgical procedures), will need a more detailed explanation and, in some cases, written consent – this is the responsibility of the team collecting the specimens as it is outside of laboratory control.

Laboratory staff accept that In emergency situations, consent might not be possible; under these circumstances it is acceptable to carry out necessary specimen collection procedures, provided they are in the patient's best interest.

1.3 Instructions for Users before Collecting Specimens

1.3.1 Guidance on Completing (Paper) Pathology Request forms

Guidance on how to complete hardcopy pathology request form is available in the Pathology Handbook.

1.3.2 Guidance for GP Practices on Completing Order Coms Request forms

Each GP practice has had training from the Pathology I.T. Department. Should further advice/guidance or top-up training be required, please contact Pathology I.T. on 01271 322324 or by email ndht.pathit@nhs.net

1.3.3 Guidance on Preparing Patients for Specimen Collection

Patients – Some specimens are collected by patients themselves. There are information sheets available for patients for the following specimens:-

- 24 Hour Urine Collection
- Obtaining a Semen Sample

These information sheets are usually distributed to patients by users. These information sheets are available from the Laboratory Supplies Dept: Fax 2328 or phone ext. 2342 from within the N.D.D.H. or 01271 322342 from outside, (answer phone out of hours).

Sample Collectors -

Information is available for all sample collectors on any special requirements for patient preparations in the Pathology Handbook - as follows:

- Search for a Test
- Microbiology Specimen Collection Guide
- Cellular Pathology (Histology & Non-Gynae Cytology Handbooks)

1.3.4 Guidance on Specimen and Container Type & Amount of Sample to Collect

- Please use the links given in section 1.3.3 above.

1.4 Instructions for Users on Collecting Specimens

1.4.1 Identifying the Patient

Patients wearing hospital I.D. wristbands. The identity of the patient must be confirmed by checking the patient's wrist band. Do not rely on the information on the headboard of the bed.

ALL HOSPITAL INPATIENT SPECIMENS MUST BE LABELLED AFTER CHECKING THE PATIENT'S WRISTBAND AND, WHERE POSSIBLE, AT THE PATIENT'S SIDE.

Patients NOT wearing hospital I.D. wristbands. The identity of the patient must be confirmed by asking them to confirm their full name and date of birth. **If positive identification of the patient cannot be confirmed by asking for these details, do not collect the specimen. Refer to a member of staff who can confirm the patient's identity, e.g. nurse or doctor and allow them to collect the specimen.**

Relevant Trust policies:-

- Patient identification Policy
- Specimen Acceptance Policy

1.4.2 Confirmation that the Patient is Appropriately Prepared

Specimen collectors should satisfy themselves of any special requirements for patient preparation by referring to the guidance in section 1.3.3 above. If special requirements, e.g. fasting are noted, this should be confirmed verbally with the patient prior to the specimen collection process commencing.

For non-appointment specimen collection, e.g. phlebotomy, if the patient has not been prepared appropriately they should be asked to return at a future time after preparing correctly. Where timed appointments have been made for specimen collection, advice should be sought either from the laboratory staff (Contact Us) or from the healthcare professional whose care the patient is under.

WARNING!
Specimen collection when the patient is not appropriately prepared could affect the integrity of any test results.

1.4.3 Instructions and Guidance for the Collection of Specimens

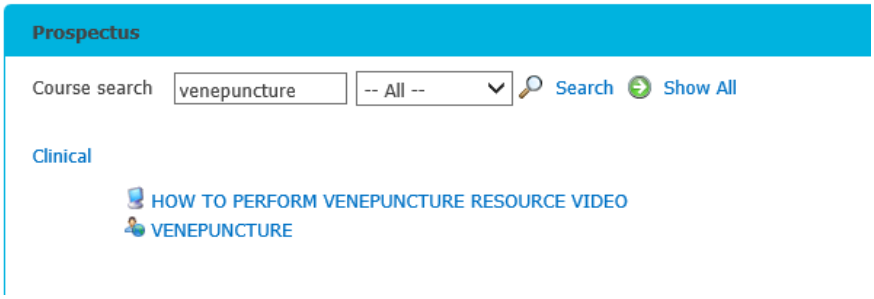
The Pathology Department is not responsible for collection of specimens, although the department's staff are always able to offer advice on collection procedures (Contact Us).

Collection of Blood Specimens

A phlebotomy service is available for both in-patients and out-patients at North Devon Hospital.

The phlebotomy service is managed by the Outpatient's Department and can be found in Outpatients C near to main reception on Level 2. Contact number for the phlebotomy room is extension 2343.

Venepuncture courses are run by the Trust and are available to book on STAR:-



Types of primary specimen container have already been covered in section 1.3.4 above.

When finished with, needles used for specimen collection should always be discarded directly into an approved sharps container, without being re-sheathed. All other non-sharp disposables should be placed in a clinical waste bag.

Related Trust Documents:

- Neonatal Venepuncture – Standard Operating Procedure*
- Performance of Venepuncture – Standard Operating Procedure

* *This document is only available on the Trust's intranet site and the link will only work from a Trust PC or laptop. If you are unable to access it but would like to see a copy, please contact the Pathology Quality Manager (bruce.seymour@nhs.net)*

Related Pathology Guidance

- Various Pathology Hand Book web pages as already described above.

Collection of Non-Blood Specimens

Various Pathology Hand Book web pages as already described, and linked, above, in particularly:-

- Microbiology Specimen Collection Guide
- Histology Specimens & Cytology Specimens

Types of primary specimen container have already been covered in section 1.3.4 above.

1.4.4 Guidance for Collecting Primary Specimens as Part of Clinical Practice

Information and guidance for these specimen collection procedures is the same as described above.

1.4.5 Instructions for Labelling of Primary Specimens

The Trust's Specimen Acceptance Policy gives guidance on the labelling requirements for primary specimens to ensure there is an unequivocal link with the patients from whom they are collected. A summary of version 5 of the policy is shown below:-

Summary of the NDHT Specimen Acceptance Policy

Key Identifiers Include:

NHS or Trakcare number
Date of birth
Name in full (not calling or preferred names)
Genito-urinary medicine number (GUM No.)
Unknown or Alias Male/Female – (see 'Main Exceptions' below).
Major incident patient number (e.g. MI001)

Labelling of Specimens & Completing Request Forms

All specimens must be clearly and unequivocally identified with a minimum of two of the key identifiers (one of which must be full name), and must match with the request form I.D.

Specimens not conforming to these criteria will be rejected by the Pathology Department. Specimens may also be rejected if they have leaked.

Almost all specimens which do not meet these requirements must be verified by the requesting practitioner (or team member), an appropriate clinician or manager.

However occasionally some Microbiology specimens, (e.g. blood cultures) which do not meet these requirements will still be processed but results will be issued with a warning comment informing that the patient's identity could not be unequivocally confirmed and that the results should be viewed with caution. The lead clinician for Pathology holds ultimate responsibility for issuing results on any unrepeatable specimens that have been mislabelled or unlabelled.

Transfusion & Antenatal Serology Specimens Only – Additional Requirements:-

> Must be identified with a minimum of three of the key identifiers. Must be labelled by hand, not with sticky labels. Must be signed by the person collecting the specimen.

Completing Pathology Request Forms (Paper and Electronic) The request must contain a minimum of three key identifiers and must match with the specimen I.D. Whenever possible, the NHS or a Trakcare number should be used as one of the key identifiers.

The report destination, the name of the requesting practitioner and the analysis required must also be included, along with relevant clinical information.

Pre-printed labels are accepted on request forms as a means of identification but they must contain all relevant information. Poorly printed or misaligned labels (where ID cannot be interpreted), will result in affected requests being rejected.

Labels must be attached to all copies of the request form. Trakcare labels are not acceptable on blood tubes as they cause automated laboratory equipment to jam.

Without the presence of relevant clinical details, some specimens will not be processed (e.g. Histology & Cytology requests)**.** It is important to include relevant clinical information, particularly for request for therapeutic drug monitoring (dosage taken and when) or if the patient has recently travelled to a foreign country and is showing symptoms of infection.

Blood Transfusion Request Forms – Additional Requirement:- Request forms for blood transfusion specimens must be signed by the person taking the specimen.

Main Exceptions to the above criteria:	GUM specimens	Minimum required is GUM (Alias) number & DOB *
	A/E unknown (unconscious) patient	Minimum required is Trakcare number & Gender*
	In the event of a life-threatening or time critical situation, the consultant in charge of patient care will discuss with the laboratory staff that they will accept the analysis of a specific, repeatable sample and acknowledge in doing so acceptance of any governance issues involved. This exception will not include samples for blood transfusion which are governed by national law.	

*** Refer to policy for full policy wording and all exceptions.**

It is a requirement and important that the identity of the person who collects each primary specimen and labels them is identified on the pathology request form along with the date of specimen collection and, in some instances, time e.g. when monitoring therapeutic drug levels.

1.4.6 Instructions for Proper Storage Conditions Prior to Transport to the Laboratory

Specimens should be transported to the laboratory as soon as possible after collection, labelling and packing have occurred. Delay could result in deterioration in the specimen which could invalidate the results of any investigations carried out or cause some or all tests results to be unavailable.

If a delay in specimen transportation is likely, please refer to the 'Pathology Specimen Storage Guidance' document found on this page in the Pathology Handbook.

2 PACKING OF SAMPLES FOR TRANSPORTATION

The packaging of specimens must consist of three components to comply with UN 3373 regulations:

(a) A primary receptacle – e.g. the container or blood tube a specimen is collected into;

(b) Secondary packaging – e.g. the purpose designed plastic specimen bag

(c) An outer packaging – e.g. the Versapak bag used to transport specimens to the laboratory.

There should be absorbent material present in the outer packaging to absorb potential spills and leakages.

Specimen containers must be tightly sealed to render them leak proof. Specimens and request forms must be placed in purpose designed plastic specimen bags. The specimens must be placed in the specimen chamber which must be sealed, the request form placed in the side pocket.

Specimens and request forms must not be put in the same compartment in case of leaking sample containers.

(a) Biochemistry and Haematology samples can be sent together, in the same specimen bag. There is a single, combined request form for these tests.

(b) Although all samples should be treated as *HIGH-RISK*, (standard precautions), known high risk specimens should be labelled as 'High Risk'. See 'High Risk Specimens and Safety' at the bottom of this link in Pathology Hand Book for further information.

(c) Specimens should be transported to the laboratory using the supplied UN3373 compliant carriers, e.g. Versapak transport bags. These are secure; contain an inner, replaceable lining for maximum sample & staff protection and safety and absorbent material to soak up any potential leakages. Various sizes are available for individual or multiple specimens, including satchels for night porters who have to multi task.

(d) When using these carriers there is no need for the person transporting the container to wear gloves or face protection. For advice on UN3373 carriers contact Mr Lee Luscombe on 01271 311754, internal ext. 3754.

It is the prime responsibility of the user/sender to collect and package specimens according to the relevant legislation in force and these guidelines. The Pathology Dept. reserves the right to refuse acceptance of patients' specimens, not packaged in accordance with current regulations which pose a hazard to its staff, couriers or other Health Care Workers.

3 SPECIMEN TRANSPORTATION

3.1.1 Responsibility for Transportation

Sodexo are responsible for providing transportation services in the Primary and Secondary care environments. The Pathology Management Team have good links with Sodexo which enable cooperation between the two services for timeliness and safety considerations.

Sodexo portering managers are responsible for training of porters and drivers in the nature of pathology specimens and health & safety requirements, including dealing with spillages.

3.1.2 Ensuring the Safety of the General Public

Should there be a breakage or spillage of one or more specimens which are in an area which the general public have access to, e.g. ward and clinic areas or public corridors, the following guidance should be followed:-

The person who has dropped the specimen or noticed that the specimen was leaking should contact the Pathology Department requesting assistance. They should try to ensure that the area is kept clear from all staff, members of the general public, relatives and patients, by enlisting help if possible and available.

A Biomedical Scientist (BMS) from the Pathology Department should go to the site where the leakage/breakage occurred. Either Biochemistry staff or Haematology staff should be contacted if a blood specimen is involved.

The BMS should assess the situation and the relevant risks if any associated with the specimen.

The BMS will clean up the spillage/leakage (according to the procedure in section 29.3 in the Pathology Health & Safety Code of Practice, Q-Pulse ref. **PATH-1**).

A Datix incident record should be completed.

3.1.3 Monitoring of Transportation of Specimens

Regular audits are carried out of the transport arrangements of pathology specimens to the laboratory from NDHT and community locations according to documented laboratory procedure.

Time & Temperature

These audits are undertaken to ensure that specimens are (i) transported within a time frame appropriate to the nature of the requested tests (i.e. making sure there is no undue delay in getting samples to the laboratory. This is accepted to be 4.5 hours) and (ii) transported within a preferred temperature range between 15 and 25^{o}C to ensure sample integrity.

Warning!
Where specimens need to be collected and kept at a temperature outside of the above range or, where transport to the laboratory is time critical, e.g. lactate, patients should be advised to attend the NDDH phlebotomy clinics.

Where specimens have been collected in a primary care setting and centrifuged, these samples will be stabilised for longer periods and can be transported to the lab the next day. (Refer to various centrifuge instructions - distributed to GP practices as part of the centrifuge implementation.)

We would encourage all GP practices to centrifuge all gold topped blood tubes as centrifugation stabilises these samples as this is considered best practice and allows them to then be stored in the refrigerator until the next courier pick up time.

Specimen Container Preservatives
Continuous, real time monitoring of specimens occurs when they are received in the laboratory. This monitoring checks for the correct specimen container and volume of specimen for the requested tests as well as completeness of patient ID.

3.1.4 Identification of Compromised Specimen Integrity or Unsafe Packaging

In all instances where, upon receipt of a sample whose integrity was compromised or it has come to the attention of laboratory staff that specimen packing or transportation practices could have or did jeopardise the safety of the courier or the general public, the laboratory will investigate the issue and contact the sender of the specimen to inform them about measures to be taken to minimise or where possible, eliminate recurrence.

Depending upon the seriousness of the incident, laboratory staff may raise a Datix incident report (e.g. spillage/leakage of specimen in a public place) and communication with the sender may be either by telephone call or by way of a comment on the pathology report.

3.2 Reporting of Incidents Relating to Specimen Packing & Transportation

Any adverse incident which occurs in the course of dispatching and transporting pathology specimens to the laboratory must be recorded using the NDHT's incident reporting system. Examples of types of incidents include:-

- Leaking specimens and associated contamination
- Serious delay in transportation of specimens
- Breakdown of vehicles transporting specimens
- Incorrect storage of specimens prior to transportation (e.g. specimens left on a radiator overnight).