Oxford University Hospitals
NHS Foundation Trust

Pathology and Laboratories Directorate

Directorate Protocol.

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Directorate of Pathology and Laboratory Medicine Specimen Transport Protocol

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The aim of this protocol is to outline the procedure to be followed when transporting specimens to the hospital laboratories

1. From specimen collection point to Trust
2. Between Trust sites (JR, CH, NOC, and Horton)
3. From clinical areas within the Trust

At all times, the safety of individuals and staff members who come into contact with specimens is of prime importance.

Updates relating to this version

1. multiple updates throughout document – hence major update.

Legislation

Transportation of specimens is covered under the European Directive 94/55/EC, known as the European Agreement on the Transport of Dangerous Goods by Road (ADR) regulations (ADR Regulations: https://www.legislation.gov.uk/uksi/2011/1885/contents/made).

This describes pathology specimens as:

1. Infectious Substances, UN Class 6.2
2. Cultures
3. Medical or Clinical Waste

Other relevant pieces of legislation that cover handling and working with infectious substances from the patient through transport system to the laboratory and eventual disposal are:

1. The Control of Substances Hazardous to Health Regulations 2004
2. Management of Health and Safety at Work Regulations 1999
3. Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009

Classification

Specimens must be separated into Category A or Category B. Category A specimens are listed in Appendix A, all others are deemed Category B. A full list can be found at (: https://www.hse.gov.uk/biosafety/blood-borne-viruses/transportation-of-infectious-substances.htm)

It the responsibility of the sending clinician to define which category samples being sent fall into. For advice, please contact Microbiology/Infection control.

Collection and labelling of specimens for transport

The person collecting the specimen must positively confirm the identity of the patient. All specimens must be collected into containers, recommended for the test requested, as described on the Pathology and Laboratories directorate page on the OUHFT website. (Link to the OUHFT Pathology website: https://www.ouh.nhs.uk/services/departments/laboratory-medicine/).

The person, who sends the specimen, must ensure that the primary container used is the appropriate one for the purpose is properly closed and is not externally contaminated by the contents. All materials used to collect the specimen must be safely disposed of in accordance with Trust Policy – Handling of Healthcare Waste. (Link to OUHFT Estates webpage: http://ouh.oxnet.nhs.uk/Estates/Pages/Policies.aspx).

Specimens received leaking or in incorrect containers are unlikely to be processed.

Instructions for labelling

All specimens must be correctly labelled. Unlabelled samples are unlikely to be processed.

Tests should be requested via EPR. If not available, then a correctly completed request form must accompany the specimens. This form must include the following information.

Required on both form (but see above) and specimen:

- Full name (or coded identifier)
- Date of birth
- Hospital and / or NHS / or equivalent number

Required on request form (where used):

- Sex of patient, if applicable for testing
- Information on the requestor
- Patient location if applicable for testing
- Full name and designation of sample taker
- Where to send results
- Who to contact in the event of a specimen breakage or leak.
- Relevant clinical information for the test(s) being requested
- Date and time of specimen collection.
- Risk of infection if relevant

This is a generic minimum required data set; specific departments may require additional patient or clinical information to allow for correct processing of certain specimens.

Where appropriate, use of the Trust EPR system will fulfil these requirements

EXCEPTION: Samples for blood transfusion must conform to the Trust Transfusion Policy Labelling Requirements
http://ouhimt.oxnet.nhs.uk/EPRSupport/DocumentLibrary/QRG/Blood%20Bank/EPR%20Blood%20Bank%20Sample%20ordering.pdf

Specimens containing infectious agents

Labels indicating a danger of infection must be used for specimens that are suspected of containing a hazard group 3 (or 4) pathogen or for specimens from patients known to be of High Risk. More details on what to label and the labels required can be found in the Microbiology User Manual on the Oxford University Hospitals Foundation Trust website (Link to OUHFT trust Microbiology webpage: https://www.ouh.nhs.uk/microbiology/about/documents/lab-users-manual.pdf)
Or Link to OUHFT website pathology pages: https://www.ouh.nhs.uk/services/departments/laboratory-medicine/).

Packaging of specimens for transport

All specimens should be transported in a suitable and timely fashion, so that they are of acceptable quality for processing on arrival.

Delays in transport should be avoided as specimens deteriorate and subsequent tests may fail (particularly specimens that are not placed in a preservative reagent); for example, potassium analysis and blood cultures should arrive in the laboratory ideally within 4 hours of collection. Please see user manuals for further information or contact the relevant laboratory User manuals are available on the OUH Trust website (Link to OUH trust website pathology pages https://www.ouh.nhs.uk/services/departments/laboratory-medicine/).

It is advised that specimens are not collected where they cannot be delivered within the timescale defined by the respective laboratory webpage which can be found here:
https://https://ouh.oxnet.nhs.uk/pathlab/pages/default.aspx) where contact details can be found).

All specimens for transport to hospital laboratories must be packaged to Packing Instruction 650 (Appendix B). It is expected that all specimens will be requested via EPR, however if this not available then appropriate request cards may be used. Specimens for transport to the laboratory are put into the bag attached to the completed request card (where required), which is then sealed.

- Microbiology specimens (blue card)
- Histopathology specimens (white card)
- Immunology specimens (brown card)
- Biochemistry and Haematology specimens (orange card) can be packaged together in the same secondary bag.
- Transfusion (red card)
- Genetics (white form, download from website)
- Neuropathology – all specimens must be requested via EPR and placed in a purple bag for transit.

Please do not put specimens for a specific department in the wrong bag (i.e., Haematology in a microbiology bag), as this may lead to a delay in sample processing.

Multiple specimens from the same patient for the same laboratory can be placed in the same bag. Do not place specimens from more than one patient or laboratory in the same specimen bag. These bags are then placed into a second large, transparent, specimen plastic bag, which should contain sufficient absorbent material to contain the liquid in all the primary containers. The second bag is sealed by means of an integral sealing strip and is clearly marked with a biohazard sign and the words ‘pathological specimens.’

It is strongly recommended that other plastic bags are not used for the transport of samples. Please contact the relevant department if there are any issues relating to the transport of specific specimens, e.g., large, or unusual specimens.

These bags are then ready to be transported/ to the laboratory by suitably trained staff. Regardless of the method of transportation, specimens must be transported in a transport box with a fastened lid and labelled as detailed in Packing Instruction 650 (appendix 2). A formalin neutralising absorbent pad must be present in the transport box to neutralise any leakage from histology pots. The box must bear a warning label saying that the box must not be opened or tampered with and states a telephone number to be contacted if the box is found unattended. The box must be able to be easily disinfected and cleaned and must retain liquid in the event of leakage of a specimen. The recognised UN 3373 packaging mark must be clearly displayed on the external surface of the transport box. In order to be compliant with

Senders must have local guidelines regarding the transportation and tracking of specimens which complies with this protocol. Senders remain responsible for ensuring that specimens are sent in a secure and safe manner. This may include listing specimens as they are placed into the transport container which is then closed using tamper evident seals. The laboratory, or any organisations handling the samples before arrival in the laboratory, will report any issues found with broken tamper seals to the sending clinical unit and will report such issues on the trust incident reporting system at point of discovery.

Spillages and Breakages

It is important that spillages and breakages are dealt with immediately to minimise the risk to others. Further guidance for biological spillages is available at (Link to the OUHFT Trust website for Infection Prevention and Control: http://ouh.oxnet.nhs.uk/InfectionControl/Pages/Default.aspx).

In the case of any spillage or breakage a Trust incident report must be completed.

Histological Specimens

If the spillage is the result of a dropped specimen for histological studies, see below.

Check the specimen container labels. If the label states '10% Formalin' or formaldehyde DO NOT treat as a biological spillage as these specimens are in Formaldehyde which must not be mixed with other chemicals/disinfectants.

Large Volume Spills

Large spillages may need drastic measures, including temporary evacuation of the area and involvement of the Emergency Services, using appropriate clothing and respirators. If the spill exceeds 2.5 litres or if the space wherein the spillage occurred is small and/or poorly ventilated the Fire Brigade should be notified immediately. The Histopathology department may be contacted for advice, if required, on 01865 220492 between 09.00 – 17.00 Monday to Friday or the on call Biomedical Scientist for Histopathology via the John Radcliffe switchboard on 01865 741166 outside of these hours for advice.

Small Volume Spills

A small volume spillage or leakage, although unpleasant, does not normally pose a major hazard, unless involving pre-sensitised individuals. Small spills should be either

1. Wiped up using a Deformalizer pad or equivalent which will neutralize the formaldehyde, then placed into a yellow bag.

   Or

2. Cover with Formalin control granules or equivalent and follow manufacturer's instructions for neutralization. For disposal within the OUH contact the relevant team (Link to OUH trust Waste Management website Link to OUHFT Waste Management: http://ouh.oxnet.nhs.uk/Estates/Pages/WasteMangement.aspx).

Spillages in Vehicles Transporting Specimens

Specimens being transported by road will be packed according to Packing Instruction 650 (Appendix B). The packages should be restrained in a safe way within the vehicle to prevent shaking. Following these guidelines will reduce the possibility of a specimen spilling or breaking in transport.

If the driver suspects a specimen is leaking from the secondary container, they should contact Microbiology at the John Radcliffe Hospital on 01865 220850 during normal working hours (out of hours call specimen reception on 01865 220465 asking for senior staff)

Spillage or leakage of formalin occurring in the enclosed environment of transport vehicles is of particular concern. The Histopathology department may be contacted for advice, if required on 01865 220492, 09.00 – 17.00 Monday to Friday or the on call Biomedical Scientist for Histopathology via the John Radcliffe switchboard on 0300 304 7777 outside of these hours.

Transport methods

A patient may take a specimen via public transport as this is outside the European Agreement on the Transport of Dangerous Goods by Road (ADR) regulations.

A member of staff transporting clinical specimens as part of their work would be expected to comply with the ADR regulations.
(The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment (Amendment Regulations 2011: https://www.legislation.gov.uk/uksi/2011/1885/contents/made)

For specimens transported from a collection point e.g., GP surgery & for the transport of specimens between Trust sites e.g., Horton to JR

The standard method of transporting laboratory specimens is by using the South-Central Ambulance Service (SCAS) NHS Trust non-patient transport service (https://www.scas.nhs.uk/our-services/logistics-courier-service/)

SCAS transports all GP specimens between 08:00 – 18:00 Monday to Friday

Inter-site specimen transport - Hours 08:00-18:00 Monday to Friday

- Horton to John Radcliffe and return (please see appendix D for details)
- John Radcliffe, Churchill, and Nuffield Orthopaedic Centre (NOC) and return

Collection points during working day

John Radcliffe:	Level 4 specimen reception
Churchill	Laboratory Medicine block 4 (air tube 14) & Immunology specimen reception
NOC	Porter's lodge main entrance
Horton	Pathology laboratory

It is the responsibility of the SCAS NHS Trust to maintain a regular transport service thus ensuring that specimen quality is not compromised through any excessive delay.

Outside of SCAS transport services normal working hours a routine periodic service is supplied between the JR, Churchill, and NOC by City Sprint.

Collection points out of routine hours

John Radcliffe	Level 4 specimen reception
Churchill	Main porter's lodge at the main entrance (air tube 14)

NOC	Porter's lodge main entrance
Horton	Pathology laboratory

Use of City Sprint for specimen transport

On the Horton site outside of normal hours the laboratory staff will arrange transport to the JR, as necessary. Horton laboratory contact number for urgent specimens out of hours: 01295 229369

JR, Churchill, and NOC sites

'Urgent' specimens will need to be sent by City Sprint courier service. City Sprint will collect specimens from the clinical area if required, however users need to specify a location from where to collect specimens. Each specimen must conform to the double, sealed bag system and must have adequate absorbent material to absorb any leakage or spill contained within the original sealed bag. The double-bagged package must then be put into a transport container, compliant with UN3373 (See Appendix B), which is clearly labelled with the destination laboratory and marked 'Urgent' to ensure urgent specimens are delivered to the laboratory on reaching the hospital site.

City Sprint Contacts

- Day time local number is 01865 749444 with a call centre 0207 880 1115
- Out of Hours call centre 01442 281 483
- Service centre manager for Oxford: Michael Peterson (01895 714577, (Mpeterson@citysprint.co.uk)

SCAS contacts

(Only need to contact them if an error occurs)

- Team Leader: Kevin Simmons, 01869 365168, 07766 397572, Kevin.Simmons@scas.nhs.uk

ASH Cabs contacts

Only used on Horton site to transport to JR

- Daytime contact is 01295 257000
- Back up number is 07957 445150
- Account number = 24, (password available in laboratory)

Transport Failures

In case of transport failure, the procedure to follow will depend on the nature of failure and the time that the failure occurred, because of this it is strongly recommended that, if staff are alerted of a transport failure, this is passed onto the senior staff without delay.

- GP collection issue: this does not occur regularly, but when it does it is usually a GP telephoning to complain that a regular collection run (specimens etc.) has been missed. This is likely to only be an issue Monday – Friday. Some GP surgeries receive two collections, so missing the first one is not ideal, but the only common impact is a delay in getting work into the laboratory. However, for the GP surgeries that only receive one collection this does lead to significant delays in delivery of samples.
    - If this is sufficiently early in the working day, then it is recommended that the SCAS office at Bicester is contacted (see above for details) to discuss the issue and to see if an alternative collection can be made.
    - If this is not possible it may be appropriate to contact City Sprint to arrange an urgent collection from the surgery (contact details above).

- If the laboratory is contacted later in the day (>17:00), the issue is more problematical, as it is likely that the surgery will close at 18:30, so collection may not be possible. In this case, the surgery should be urged to store any samples they have in a manner that should preserve the stability of the analytes, unless they are willing to deliver the samples themselves. Information about storing blood samples is available on the OUH website (OUHFT Biochemistry webpage: https://www.ouh.nhs.uk/biochemistry/tests/documents/transport-and-storage.pdf).

- Inter-site collection: this may be Horton – JR or CH, NOC - JR and can occur on any day and any time. Routine deliveries and collections during the week are the responsibility of SCAS, whereas out of hours and weekend collections are more likely to be handled by City Sprint. In both cases, it is worth contacting the relevant teams (see above for details).
  - As JR and CH sites will have regular collections over the 24-hour period, missing one will in most cases not affect clinical care.
  - At the Horton, the transports are much less common, so it may be appropriate to organize a taxi (see contacts above) to cover emergency deliveries.
  - Not all laboratories offer a 24/7 service, so it is recommended that clinical users refer to opening times as displayed on laboratory websites.

In the case of significant transport failure, details should be forwarded to the affected laboratory management team and recorded on the OUH Trust Incident Reporting System, if appropriate a complaint should be raised with the courier service responsible. Laboratory Management teams should record transportation issues in accordance with their incident reporting policies.

The transport of specimens within Trust sites

1. Pneumatic (air) tube system

This is the preferred method of specimen transport for specimens not in formaldehyde. All clinical areas are strongly advised to make maximum use of the air tube system to reduce delays in specimen transport time.

The Horton, Churchill & JR sites have a pneumatic (air) tube system that allows rapid transport of samples from ward to laboratory. A separate policy is available that covers the safe use of this equipment and the samples that can be sent using this route.(Link to OUH trust Air tube policy OUH Trust Air Tube Policy - http://ouh.oxnet.nhs.uk/Estates/Document%20Library/Forms/AllItems.aspx?RootFolder=%2fEstates%2fDocument%20Library%2fProcedures%20and%20Other%20Documents&FolderCTID=0x010100B8D667E6D53D4008BD59E0D3C18CDFE000DF1D713E77DFDE44A30A3126AE15B59A&View=%7b81061C77-FE16-46FA-A7A0-DE451CA72439%7d).

2. Portering staff

Porters should only be used for the transport of samples where the air tube system is not available or not appropriate. All sites have a portering service that can be contacted to deliver specimens in the event of a breakdown or for delivery of specimens not suitable for transport by the pneumatic (air) tube system.

- At the JR, they can be contacted by telephoning porter's helpdesk on extension 40404.
- On the Churchill site they can be contacted by telephoning the Helpdesk on 35353.
- On the Horton site the duty portering staff can be contacted by telephoning 29039 or Bleep 502/514/506).
- On the NOC site the portering staff can be contacted by 38010.

There are no regular collections by Porters with the exception of Churchill retained estate (see appendix C for timetable).

The transport of specimens through the post

Royal Mail Group plc will not accept a package that contains UN2814 or UN2900 infectious substances, Category A, as classified at 6.2 of the Technical Instructions for the Safe Transport of Dangerous Goods by Air published by International Civil Aviation Organisation (ICAO). It will accept Category B diagnostic specimens provided they are packaged to PI650 requirements (https://www.un3373.com/transport-biological-substances/p650-road-transport/). Full details may be accessed on the Royal Mail website (https://business.help.royalmail.com/app/answers/detail/a_id/867).

The transport of specimens from a laboratory to another organisation (i.e., referral laboratory)

Each laboratory will have their own documented procedures for transport of these specimens which are available on request. Laboratory contact numbers can be found in the user manuals on the Oxford University Hospitals NHS Foundation Trust website

(https://www.ouh.nhs.uk/services/departments/laboratory-medicine/).

The transport of specimens for research:

This protocol does not cover specimens that have been taken primarily for research purposes.
The clinical teams need to consult with the research teams regarding the legislation and logistics of research cases.

Education & Training

Any person liable to be involved in the handling and transportation of pathology specimens from the patient to the laboratory must be fully trained in the procedures contained within this document. This is the responsibility of the managers and supervisors in the relevant areas.

Audit and monitoring of compliance with protocol

It is the responsibility of the Pathology Directorate to periodically seek sufficient assurance that:

1. External contractors that transport or handle specimens
2. Senders of specimens

are compliant with the contents of this protocol. This will be performed by means of periodic audits examining various aspects of the transport process. These will be recorded formally and actions or learning opportunities shared with users.

Reference documents used in the compilation of this protocol

- Working with ADR – An Introduction to Carriage of Dangerous Goods by Road, HSE 2017 (https://www.hse.gov.uk/cdg/manual/adrcarriage.htm)
- Patient Sample and Request Form Identification Criteria. IBMS (IBMS Website Homepage: https://www.ibms.org/home/ and specific identification criteria: https://www.ibms.org/resources/documents/patient-sample-and-request-form-identification-criteria/)
- Transport of Infectious Substances. Department for Transport, Revision 2013 (https://www.gov.uk/government/collections/transporting-dangerous-goods)
- HSE: Transportation of Infectious Substances (https://www.hse.gov.uk/biosafety/blood-borne-viruses/transportation-of-infectious-substances.htm)
- Guidance on regulations for the transport of infectious substances 2021-2022 (https://www.who.int/publications/i/item/9789240019720)
- Carriage Regulations. Health and Safety Executive (https://www.hse.gov.uk/cdg/regs.htm)

- Infection at Work: Controlling the Risks. Advisory Committee on Dangerous Pathogens (https://www.gov.uk/government/groups/advisory-committee-on-dangerous-pathogens)

Useful Websites

- www.nhs.uk: NHS Website
- www.versapak.co.uk: Pathology Transport Bags and Packs
- http://intelsius.com/: Pathology Specimen Transport Packaging
- : Safety Pack (https://www.fishersci.com/us/en/brands/I9C8M3HR/saf-t-pak-inc.htm l)
- www.royalmail.com: Royal Mail
- www.hse.gov.uk: Health and Safety Executive
- https://www.gov.uk/government/organisations/public-health-england: Public-Health England
- www.who.int: World Health Organisation
- http://www.iata.org/Pages/default.aspx (Dangerous Good Regulations (DGR). International Air Transport Association (IATA)

Appendix A: Category A Specimens

2: Indicative Examples of Infectious Substances Included in Category A

UN Number and Name	Micro-organism
UN 2814 Infectious substances affecting humans	Infectious substances affecting humans *Bacillus anthracis (cultures only)* *Brucella abortus (cultures only)* *Brucella melitensis (cultures only)* *Brucella suis (cultures only)* *Burkholderia mallei - Pseudomonas mallei* – Glanders *(cultures only)* *Burkholderia pseudomallei – Pseudomonas pseudomallei (cultures only)* *Chlamydia psittaci* - avian strains (cultures only) *Clostridium botulinum (cultures only)* *Coccidioides immitis (cultures only)* *Coxiella burnetii (cultures only)* Crimean-Congo haemorrhagic fever virus Dengue virus (cultures only) Eastern equine encephalitis virus (cultures only) *Escherichia coli*, verotoxigenic (cultures only) **a** Ebola virus Flexal virus *Francisella tularensis (cultures only)* Guanarito virus Hantaan virus Hantavirus causing haemorrhagic fever with renal syndrome Hendra virus Hepatitis B virus (cultures only) Herpes B virus (cultures only) Human immunodeficiency virus (cultures only) Highly pathogenic avian influenza virus (cultures only) Japanese Encephalitis virus (cultures only) Junin virus Kyasanur Forest disease virus Lassa virus Machupo virus Marburg virus Monkeypox virus *Mycobacterium tuberculosis (cultures only)* Nipah virus Omsk haemorrhagic fever virus Poliovirus (cultures only) Rabies virus (cultures only) *Rickettsia prowazekii (cultures only)* *Rickettsia rickettsii* (cultures only) Rift Valley fever virus (cultures only) Russian spring-summer encephalitis virus (cultures only) Sabia virus *Shigella dysenteriae type 1 (cultures only) a* Tick-borne encephalitis virus (cultures only) Variola virus Venezuelan equine encephalitis virus (cultures only) West Nile virus (cultures only) Yellow fever virus (cultures only) *Yersinia pestis* (cultures only)

Appendix B: Packing Instruction

PI620 – For Category A Specimens and applies to UN 2814

PI650 – For Category B Specimens and applies to UN 3373

PACKAGING INSTRUCTION PI620 – for Category A Specimens

This instruction applies to UN 2814.

The following packaging's are authorized provided the special packing provisions are met (see below).
Packaging should be UN-type approved and consist of:

1. Inner packaging's comprising:
    a. Leak-proof primary receptacle(s).
    b. A leak-proof secondary packaging.
    c. Other than for solid infectious substances, an absorbent material in sufficient quantity to absorb the entire contents placed between the primary receptacle(s) and the secondary packaging; if multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated so as to prevent contact between them.
    d. An itemised list of contents, enclosed between the outer and secondary packaging.
2. A rigid outer packaging of adequate strength for its capacity, mass and intended use. The smallest external dimension shall be not less than 100 mm.

Additional Requirements:

Inner packagings, containing infectious substances, shall not be consolidated with inner packaging's containing unrelated types of goods. Complete packages may be over packed, such an over pack may contain dry ice.

Other than for example consignments, e.g., whole organs which require special packaging, the following additional requirements shall apply:

1. **Substances consigned at ambient temperatures or at a higher temperature.** Primary receptacles shall be of glass, metal, or plastics. Positive means of ensuring a leak proof seal shall be provided, e.g., a heat seal, a skirted stopper, or a metal crimp seal. If screw caps are used, they shall be secured by positive means, e.g., tape; paraffin sealing tape or manufactured locking closure.
2. **Substances consigned refrigerated or frozen.** Ice, dry ice, or other refrigerant shall be placed around the secondary packaging(s) or alternatively in an over pack with one or more complete packages marked in accordance with regulatory requirements. Interior supports shall be provided to secure secondary packaging(s) or packages in position after the ice or dry ice has dissipated. If ice is used, the outer packaging or over pack shall be leak proof. If dry ice is used, the outer packaging or over pack shall permit release of carbon dioxide gas. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used.
3. **Substances consigned in liquid nitrogen.** Plastic primary receptacles capable of withstanding very low temperatures shall be used. The secondary packaging shall also be capable of withstanding very low temperature, and in most cases will need to be fitted over the primary receptacle individually. Provisions for the consignment of liquid nitrogen shall also be fulfilled. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the liquid nitrogen.
4. **Lyophilized substances** may also be transported in primary receptacles that are flame-sealed glass ampoules or rubber-stoppered glass vials fitted with metal seals.
5. For surface transport there are no quantity limits per package

Whatever the intended temperature of the consignment, the primary receptacle or the secondary packaging shall be capable of withstanding without leakage an internal pressure differential of not less than 95 kPa and temperatures in the range -40°C to +55°C

Special packing provisions for infectious substances (Division 6.2)

Consignors of infectious substances shall ensure that packages are prepared in such a manner that they arrive at their destination in good condition and present no hazard to persons or animals during transport. Liquids shall be filled into packagings, including IBCs, which have an appropriate resistance to the internal pressure that may develop under normal conditions of transport.

For UN 2814 and 2900, an itemised list of contents shall be enclosed between the secondary packaging and the outer packaging. When the infectious substances to be transported are unknown but suspected of meeting the criteria for inclusion in Category A and assignment to UN 2814 or UN 2900, the words "suspected Category A infectious substance" shall be shown, in parentheses, following the proper shipping name on the document inside the outer packaging.

Before an empty packaging is returned to the consignor, or sent elsewhere, it shall be thoroughly disinfected or sterilized and any label or marking indicating that it had contained an infectious substance shall be removed or obliterated.

PACKAGING INSTRUCTION P1650 for Category B specimens

This packing instruction applies to UN 3373

1. The packaging shall be of good quality, strong enough to withstand the shocks and loadings normally encountered during carriage, including trans-shipment between vehicles and containers and between vehicles or containers and warehouses as well as any removal from a pallet or over pack for subsequent manual or mechanical handling. Packaging's shall be constructed and closed to prevent any loss of contents that might be caused under normal conditions of carriage by vibration or by changes in temperature, humidity, or pressure.
2. The packaging shall consist of three components:
    a. a primary receptacle
    b. a secondary packaging; and
    c. an outer packaging.
3. Primary receptacles shall be packed in secondary packaging in such a way that, under normal conditions of transport, they cannot break, be punctured, or leak their contents into the secondary packaging. Secondary packaging shall be secured in outer packaging with suitable cushioning material. Any leakage of the contents shall not compromise the integrity of the cushioning material or of the outer packaging.
4. For shipments being carried by air the primary inner receptacle must not contain more than 1 litre and the outer packing must not contain more than 4 litres. For shipments carried by surface transport these limits do not apply.
5. For transport, the recognised label, diamond in shape stating UN3373, shall be displayed on the external surface of the outer packaging on a background of a contrasting colour and shall be clearly visible and legible. The width of the line shall be at least 2mm; the letters and numbers shall be at least 6mm high.
6. The completed package shall be capable of successfully passing the drop test set out in the regulations except that the height of the drop test shall not be less than 1.2m. The smallest external dimension of the outer packaging shall not be less than 100mm.
7. For liquid substances:
    a. The primary receptacle(s) shall be leak-proof
    b. The secondary packaging shall be leak-proof.
    c. If multiple fragile primary receptacles are placed in single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them.
    d. Absorbent material shall be placed between the primary receptacle(s) and the secondary packaging. The absorbent material shall be in quantity sufficient to absorb the entire contents

of the primary receptacle(s) so that any release of the liquid substances will not compromise the integrity of the cushioning material or of the outer packaging.

e. The primary receptacle or the secondary packaging shall be capable of withstanding, without leakage, an internal pressure of 95 kPa (0.95 bar).

8. For solid substances:
    a. The primary receptacle(s) shall be sift-proof*.
    b. The secondary packaging shall be sift-proof*
    c. If the multiple fragile primary receptacles are placed in a single secondary packaging, they shall be either individually wrapped or separated to prevent contact between them.
9. Refrigerated or frozen specimens: Ice, dry ice, and liquid nitrogen:
    a. When dry ice or liquid nitrogen is used to keep specimens cold, all applicable requirements of these Regulations shall be met. When used, ice or dry ice shall be placed outside the secondary packaging or in the outside packaging or an over pack. Interior supports shall be provided to secure the secondary packaging in the original position after the ice or dry ice has dissipated. If ice is used the outside packaging or over pack shall be leak-proof. If carbon dioxide, solid (dry ice) is used, the packaging shall be designed and constructed to permit the release of carbon dioxide gas to prevent a build-up pressure that could rupture the packaging's and shall be marked "Carbon dioxide, solid" or "Dry ice".
    b. The primary receptacle and the secondary packaging shall maintain their integrity at the temperature of the refrigerant used as well as the temperatures and the pressures that could result if refrigeration were lost.
10. Infectious substances assigned to UN 3373 and are packed and marked in accordance with this packing instruction are not subject to any other requirement in these Regulations.
11. Packaging manufacturers and subsequent distributors shall provide clear instructions on filling and closing such packages to the consignor or to the person who prepares the package (e.g., patient) to enable the package to be correctly prepared for transport.
12. If any substances has leaked or has been split in a vehicle or container, it may not be reused until after it has been thoroughly cleaned, and, if necessary disinfected or decontaminated. Any other goods or articles carried in the same vehicle or container shall be examined for contamination.
13. Packing materials can be re-used if cleaned appropriately and still conforms to category B packing requirements. If packing material becomes damaged it should be discarded and not re-used.

*"**Sift-proof** packaging" means a packaging impermeable to dry contents

Appendix C: Portering services

JRH:

There are no routine portering rounds, the majority of the clinical areas have air tubes installed and they are the preferred method to get a sample to the laboratories. If a porter is required phone the Helpdesk on extension 40404.

Churchill:

There are no routine collections from the new build with Air-Tubes installed.
In the retained estate there are five portering rounds Monday to Friday.
In the areas with an Air Tube, it should be used to send samples (if suitable) to station 14 (Laboratory Medicine) which will divert to the Porters when the laboratory is closed.

Porter starts at Lab Medicine, Block 4 and will deliver any specialist testing samples to the other labs on the Churchill site during the round. He will complete back at Laboratory Medicine. For more urgent requests call helpdesk **35353**

Route:
Lab Medicine
Immunology Lab
Sleep Labs
Chest Clinic
Ward 16
GU Medicine
DNA/Cyto Genetics
Tarver Dialysis
Ward 15
Urology OPD
Renal OPD
Tissue Typing
Sobell House
OCDEM OPD
Geoffrey Harris
Lab Medicine
Churchill Theatres

Times:
8:30 to 9:00
10:10 to 10:40
12 noon to 12:30
14:30 to 15:00
16:30 to 17:00

Nuffield Orthopaedic Centre:

There are no routine specimen collection rounds. The porters can be called on 38010 to collect specimens.

Horton Hospital: (In house NHS)

There are no scheduled portering rounds, single jobs can be booked by call to **Bleep 514.** Telephone **29039.**

Air Tube is available to send samples to laboratory from Laburnum Ward, MAU, Brodey Centre, and A&E.

Appendix D: Horton courier times

Sample transfers to Oxford

Weekdays:

Time	Courier
07:30 – 08:00	SCAS
11:00	SCAS
14:00	SCAS
16:30	SCAS
18:00	SCAS
22:00	City Sprint

Weekends:

	Time	Courier
Saturday	09:15	SCAS
	11:45	SCAS
	16:00	City Sprint
	23:00	City Sprint
Sunday	09:00	Ash Cabs
	12:00	City Sprint
	15:00	Ash Cabs
	23:00	City Sprint

Authorisation

This document was securely signed and authorised by :

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Andrew Platt: 15-Jun-2022 08:07