

How to safely ship human blood samples from suspected Ebola or Marburg cases within a country by road, rail and sea

2017

Step 1: Before handling the sample, prepare all shipping equipment

Step 1a: Manage logistics

- Identify the name and telephone number and/or e-mail of 1) responsible person /emergency contact at the National Reference Laboratory (this person should be available 24 hours a day until shipment arrives), and 2) lead epidemiologist /medical officer at the Ministry of Health
- Notify National Reference Laboratory and the lead epidemiologist / medical officer that the sample shipment will be coming
- Verify schedule / timetable for the company transporting the sample

Step 1b: Assemble equipment for packing samples

Packing

- Absorbent material in sufficient quantity to absorb the entire liquid content, should the primary container(s) leak
- Leak-proof secondary container
- Rigid shipping box



Inner lining



Inner lining



- Cushioning material, e.g. bubble wrap



- Tape to seal the outer package (if required)



Shipping / Transporting

- Receiver's name, address and telephone number
- Epidemiological questionnaire or line-list which includes patient name, sex, age (birthdate), clinical information, symptoms, date of onset, date specimen collected, type of sample
- Laboratory form or letter describing the main epidemiological and clinical findings and the lab tests that are required
- Waterproof marker



If refrigeration of the samples is necessary

- Styrofoam container
- Frozen ice pads



Step 1c: Locate the sample

Quick Tips for Category A shipments (infectious substances that can cause permanent disability, life-threatening or fatal disease when exposed to healthy people or animals)

- ✓ Ensure the primary and secondary containers are leak-proof
- ✓ Blood collection tubes in a sealed plastic bag or a screw-capped rigid tube can constitute a leak-proof primary container
- ✓ Do not place any sharps in your package: no needles, no cutters, no blades
- ✓ Shipping packages can be reused; but the packaging needs to be appropriately disinfected
- ✓ The minimal dimensions to ship a Category A package is 10cm x 10cm x 10cm
- ✓ Remember that training to ship Category A samples is a legal requirement and must be renewed every 2 years

Step 2: Prepare the sample

- ❑ If the sample is in a plastic leak-proof primary container proceed to Step 3
- ❑ If sample is not in a plastic leak-proof primary container follow steps 2a – 2h



Step 2a: Put on a gown, face protection and gloves (over cuffs)

- ✓ See WHO document "How to safely collect blood samples from persons suspected to be infected with highly infectious blood-borne pathogens"



Step 2b: Protect the sample from breaking during transport by wrapping the tube of blood in a paper towel or cushioning material.

- ✓ Do not wipe sample collection tubes with disinfectant. Use disposable paper towel only.



Step 2c: Ask a designated assistant to approach you with the unscrewed plastic leak-proof primary packaging container

- ✓ This person should have gloves on



Step 2d: Place the wrapped tube of blood into the plastic leak-proof primary packaging container

- ✓ Be careful not to touch the outside of the plastic leak-proof primary packaging container tube with contaminated gloves



Step 2e: Have the designated, gloved assistant tightly close the plastic leak-proof primary packaging container

- ✓ Disinfect with a disinfectant the outer side of the plastic leak-proof packaging container



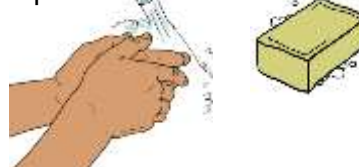
Step 2f: Both persons should remove their personal protective equipment

- ✓ See WHO document "How to safely collect blood samples from persons suspected to be infected with highly infectious blood-borne pathogens"

Step 2g: Put contaminated items into an infectious waste bag for destruction

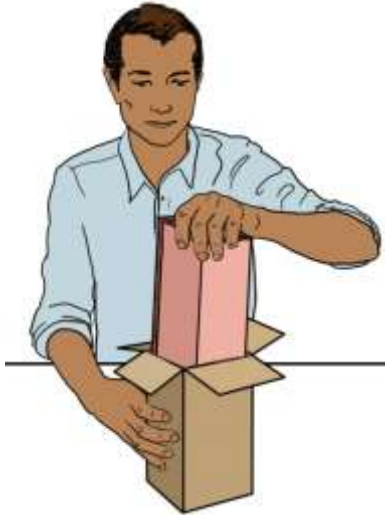
Step 2h: Both persons should perform hand hygiene

- ✓ Duration of the entire procedure: 40-60 sec



Step 3: Package the sample

Step 3a: Prepare the rigid shipping box by inserting the inner lining into it



Step 3b: Open the secondary leak-proof container

- ✓ Choose the size of the container to match the number of samples being shipped



Step 3c: Insert the absorbent material

- ✓ There should be enough material to absorb all contents in primary container



Step 3d: Wrap the primary container with cushioning material

- ✓ If packaging more than one sample, wrap each primary container individually with the bubble wrap to prevent breakage



Step 3e: Place the primary container(s) into the secondary container



Step 3f: Close the secondary container



Step 3: Package the sample

Step 3g: If refrigeration is not necessary, place the secondary container into the lined rigid shipping box and proceed to step 3j.



If refrigeration is necessary

3h. Place the secondary leak-proof container into a styrofoam container and surround with ice packs



3i. Place styrofoam container into the rigid shipping box



Step 3j: Put laboratory form / letter and epidemiological questionnaire into an envelope



Step 3k: Put laboratory form / letter and epidemiological questionnaire into the rigid shipping box

- ✓ If no refrigeration is needed, place the laboratory form/letter and epidemiological questionnaire inside the box
- ✓ If refrigeration is needed, place the form/letter on the outside of the styrofoam container so that moisture will not destroy the writing on the forms



Step 3l: Close the top of the box



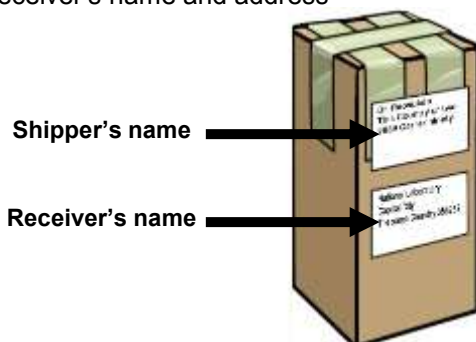
Step 3m: Tape the box closed



Step 4: Mark and label the box

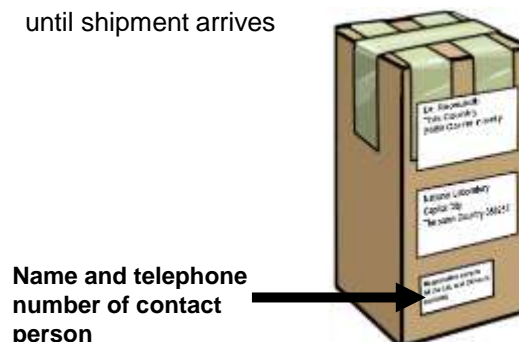
Step 4a: Write the name and addresses on box

- ✓ Shipper's name and address
- ✓ Receiver's name and address



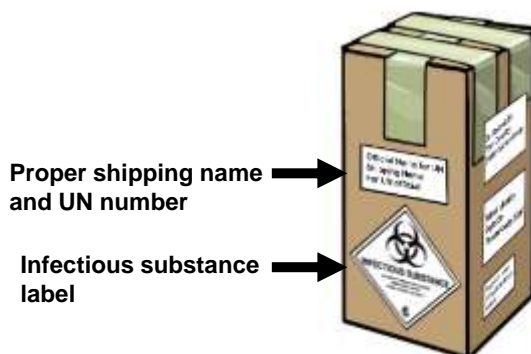
Step 4b: Write the name and the telephone number of the contact person at the National Reference Laboratory

- ✓ Person should be available 24 hours a day until shipment arrives



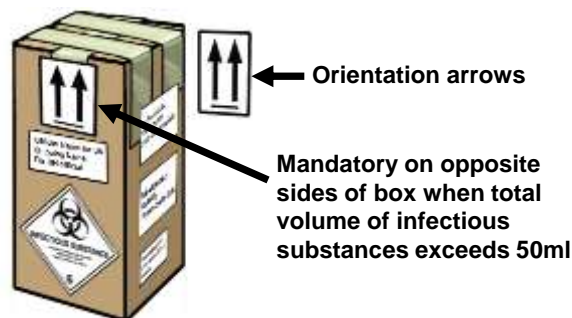
Step 4c: Place the 'Infectious Substance' label on box

- ✓ Write: 'Infectious substance, affecting humans, UN2814'



Step 4d: Verify that the orientation arrows are on the box

- ✓ Arrows should be placed on opposite sides of box
- ✓ Arrows are required when total volume of infectious substance exceeds 50 ml per box



Step 5: Finalise the shipment

Step 5a: Contact the transporting company to either pick-up shipment, or inform them that you will bring the shipment to them

- ✓ Inform the transporting company if short delivery times are required due to refrigeration

Step 5b: Contact the National Reference Laboratory to inform them that samples have been sent



Step 5c: Obtain shipping and tracking receipt and store in a safe location for 2 years

- ✓ If possible, scan and email the tracking receipt to the lead epidemiologist / medical officer in charge of outbreak investigation and the responsible person in the laboratory



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