

In-Country shipment : How to safely ship human blood samples from suspected Ebola cases within a country by road, rail and sea

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

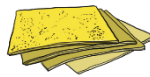
(1) Manage logistics:

- 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 MoH
- 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

(2) Assemble equipment for packaging samples:

Packaging:

- Absorbent material in sufficient quantity to absorb the entire liquid content, should the primary container(s) leak



- Leak-proof secondary container



- Rigid shipping box



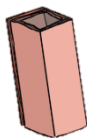
- Cushioning material, e.g. bubble wrap



- Tape to seal the outer package (if required)



- Inner lining



If refrigeration of the samples is necessary:

- Styrofoam container
- Frozen ice pads



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



(3) Locate the sample:

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

- ✓ Ensure the primary and secondary containers are leak-proof
- ✓ Vacutainer(s) 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

A. If the sample is in a plastic leak-proof primary container proceed to step 3



B. If sample is not in a plastic leak-proof primary container follow steps B1-B8

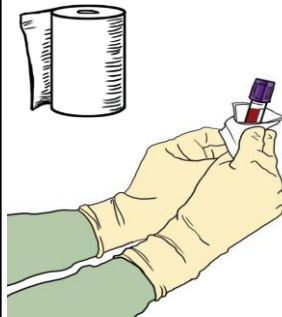
✓ If sample is not in a leak-proof container, (e.g. Vacutainers or blood collection tubes) DO NOT touch Vacutainers or blood collection tubes without wearing appropriate personal protective equipment

Step B1. Put on a gown, face protection and gloves (over cuffs) [see "How To safely collect blood samples from persons suspected to be infected with highly infectious blood-borne pathogens"]

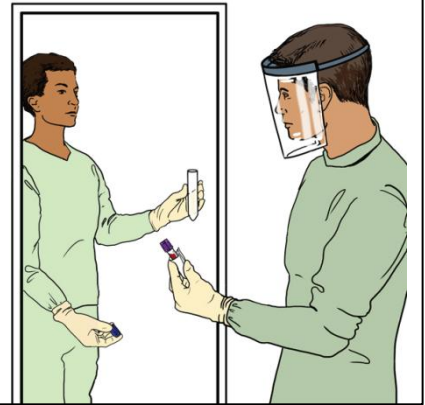


Step B2. Protect the sample from breaking during transport by wrapping the tube of blood in a paper towel or cushioning material.

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



Step B3. Ask a designated assistant to approach you with the unscrewed plastic leak-proof primary packaging container.
✓ This person should have gloves on.



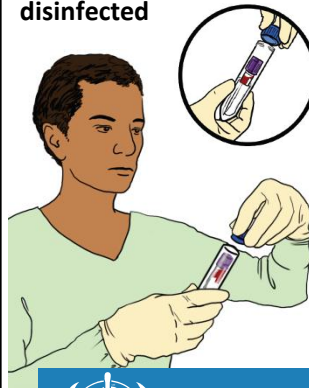
Step B4: Place the wrapped tube of blood into the plastic leak-proof primary packaging container.

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



Step B6: Have the designated, gloved assistant tightly close the plastic leak-proof primary packaging container.

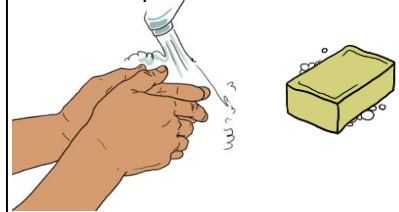
When closed, the outside of the primary tube can be disinfected



Step B6. Both persons should remove their personal protective equipment [see "How To safely collect blood samples from persons suspected to be infected with highly infectious blood-borne pathogens"]

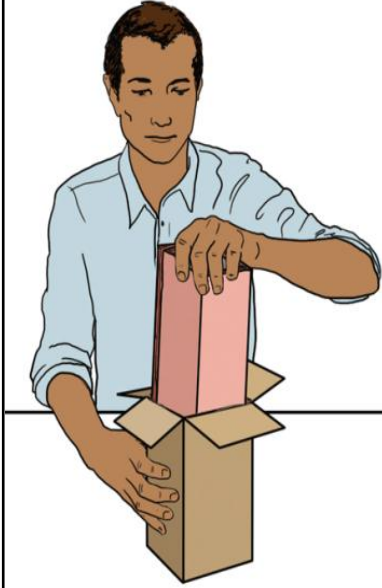
Step B7. Put contaminated items into an infectious waste bag for destruction

Step B8. Both persons should perform hand hygiene. Duration of the entire procedure: 40-60 sec.



Step 3: Package the sample (1st part)

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



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 (last part)

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 of 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 (s)



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

Shipper's name



Receiver's name



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

Name and telephone number of responsible person



Step 4c. Place the Infectious Substance label on box

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

Proper shipping name and UN number



Infectious substance label



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

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



Orientation arrows:

Mandatory on opposite sides when total volume Of infectious substances exceeds 50ml

Step 5. Finalize the shipment

Step 5a. Contact the National Reference Laboratory to inform them that samples have been sent

Step 5b. 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 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



World Health Organization