How to safely ship human blood samples from Lassa cases within a country by road, rail and sea

**Interim Guidance**

**February 2018**

### 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
- 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

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

#### 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 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

![Prepare the rigid shipping box](image)

#### Step 3b: Open the secondary leak-proof container

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

![Open the secondary leak-proof container](image)

#### Step 3c: Insert the absorbent material

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

![Insert the absorbent material](image)

#### 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

![Wrap the primary container](image)

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

![Place the primary container(s) into the secondary container](image)

#### Step 3f: Close the secondary container

![Close the secondary container](image)

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How to safely ship blood samples from suspected Lassa cases within a country by road, rail and sea
**Step 3: Package the sample**

<table>
<thead>
<tr>
<th>If refrigeration is necessary</th>
<th>If no refrigeration needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>3h. Place the secondary leak-proof container into a styrofoam container and surround with ice packs</td>
<td>3i. Place styrofoam container into the rigid shipping box</td>
</tr>
</tbody>
</table>

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

**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

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*How to safely ship blood samples from suspected Lassa cases within a country by road, rail and sea*
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