Public Health Ontario | Santé publique Ontario

LABORATORY GUIDANCE

Specimens Requiring Emergency Response Assistance Plan (ERAP) for Transport within Canada

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About this Document

This document provides:

- The list of ERAP agents
- How to request the testing of ERAP agents
- Specimen collection guidelines
- Specimen submission review
- Additional resources on specimen testing and safety

ERAP Agents

As of February 1, 2022, the following pathogens, including specimens suspected of containing these pathogens, must always be shipped under ERAP. For the most up to date list, consult the Transportation of Dangerous Goods Regulations, Appendix 3: Guide to Category A and Category B Assignment.[1]

- Crimean-Congo hemorrhagic fever virus[2]
- Ebola virus[2]
- Foot and mouth virus cultures
- Guanarito virus
- Hendra virus
- Herpes B virus (Cercopithicene Herpesvirus-1)[3]
- Junin virus
- Kyasanur Forest virus
- Lassa virus[2]

- Machupo virus
- Marburg virus[2]
- Nipah virus
- Omsk hemorrhagic fever virus
- Russian Spring-Summer encephalitis virus
- Sabia virus
- Variola (smallpox virus)

How to Request the Testing of ERAP Agents

> The decision to proceed with ERAP agent testing requires the concurrence of the PHO Microbiologist and the National Microbiology Laboratory (NML).
>
> It is the request submitter's responsibility to ensure staff are trained in the collection and shipping of Category A specimens as per the Transportation of Dangerous Goods Regulations (TDGR) and to set up an account with a courier who can transport ERAP agents.

Before Contacting a PHO Lab and Collecting Specimens

When an ERAP agent is suspected:

- Immediately inform the following:
    - Your local/hospital infection prevention and control team, occupational health and safety team and an infectious diseases specialist,
    - Your local/hospital laboratory management and microbiologist,
    - Your local public health unit.
- Obtain a clinical risk assessment, including travel history, exposure, clinical status and consideration of differential diagnoses.

Process for requesting testing from a PHO laboratory:

If there is still a concern of infection by an ERAP agent, **before collecting specimens**, contact a PHO laboratory to request ERAP testing.

To initiate PHO testing, contact:

- PHO Customer Service Centre at 416-235-6556 or 1-877-604-4567
  (Monday to Friday 7:30 a.m.– 7 p.m. and Saturday 8 a.m. – 3:45 p.m.), or[4]
- The PHO Duty Officer after-hours at 416-605-3113.

A PHO Microbiologist or designated staff will follow up with the patient care team.

Once the PHO Microbiologist concurs that ERAP agent testing is appropriate, the PHO lab will follow up with the submitter about next steps.

Specimen Collection Guidelines

This section applies to all specimens collected from a patient suspected with an ERAP agent.

Prior to any specimen collection, discuss with your local laboratory management to ensure that any specimens for testing are collected and transported appropriately.

If your laboratory is unable to package and ship as per TDGR ERAP conditions, do not collect and contact your nearest Emergency Department to confirm whether they can collect and transport ERAP agents before referring the patient to the hospital.

Key Specimen Collection Guidance

- The following should be observed in the collection of **all** specimens from patients suspected of having infection with an ERAP agent:

- Only specimens essential for diagnosis or monitoring should be collected.

- Specimens should be obtained by staff experienced in the required techniques.

- Follow recommended safety procedures including proper use of personal protective equipment (PPE).

- Laboratory staff should be alerted to the nature of the specimens which, once received, should remain in the custody of designated persons from the time of specimen receipt until testing is complete.

Additional Specimen Guidance

- Do not use glass specimen collection devices/containers, unless there is no other alternative.
- Automated delivery (pneumatic tube) systems should NOT be used as they may disseminate aerosols in the event of a spill or breakage.
- Collect the appropriate number of specimens for testing and label with minimum two patient identifiers. PHO laboratory will not aliquot samples under investigation for ERAP agents.
- Each specimen submitted to PHO laboratory should be submitted with its own separate PHO laboratory General Test Requisition.[5] Non-ERAP agent tests requested on the same requisition will be cancelled.
- Only ship the specimens for ERAP agent testing in the package; do not include additional specimens for other tests. Non-essential microbiology tests sent to PHO laboratory will be postponed pending ERAP agent testing results.

Specimen Submission Overview

Communication plan for team members:

If ERAP agent testing is agreed to, the PHO laboratory requires contact information, including direct telephone numbers, from the following:

- A member of the patient's clinical management team or designate.
- The TDG-certified person responsible for shipping.
- The courier used for ERAP shipping and tracking information.

The PHO laboratory will assign staff to function as key contacts and maintain contact with the sending lab/consignor (formerly "shipper") during the shipment process.

Process for Shipping to an External Testing Laboratory

> **These steps are not intended to replace or supersede Transport Canada's Transportation of Dangerous Goods Regulations (TDGR)**. Always follow the most up-to-date TDGR. Transportation of Dangerous Goods (TDG) consignors (formerly "shippers") must be certified.

Initiation of ERAP:

- After a PHO Microbiologist has concurred to test the patient for ERAP agents, a PHO laboratory designated person will reach out to the consignor (the person sending the ERAP package) for contact information to start the process.

- The recipient laboratory(s) provides the consignor with their shipping address, the name of the consignee (person receiving the ERAP package) and a phone number that will be answered by a person with knowledge of the consignment if there is a problem, as required for an ERAP shipment.
- Only one ERAP activation is required at a time for one or a group of consignments, beginning when the first consignment is picked up and ending when the last consignment is delivered, providing that at least one of the consignments is always in transit.

Preparation of consignment:

- It is the responsibility of the TDG certified consignor to ensure that TDGR regulations are met in the preparation of packages, shipping documents and other aspects of shipping regulated by TDGR.[1]
- The consignor will make arrangements with a courier who is TDG certified and able to transport an ERAP agent.
- The consignor will prepare the packages for shipment:
    - Specimens must be packaged in type P620 packaging (formerly known as a "type 1A packaging") as explained in the link.[6] Some courier companies may also be able to provide packaging materials.
- To facilitate purchase of type P620 packaging, a list of vendors can be accessed on the Government of Canada's website.[7]
- Specimens must be packaged with cold packs which can be placed between the primary and secondary container. Do not ship whole blood on dry ice; NEVER place dry ice within sealed, pressure-resistant containers.

The consignor will prepare the shipping documents:

- For land transportation, a Shipping Document for Surface Transport will be used. Each shipping site will develop their own document.[8]
- For air transport, a Shipper's Declaration for Dangerous Goods will be used.[8]
    - This document is courier specific and is available from each courier. Please confirm with courier that the document is completed appropriately.
    - This document must be printed in colour.
    - Confirm with the courier the number of copies required.
- A waybill (obtained from the carrier at time of shipment).
- The ERAP reference number must be included where indicated on the shipping documents.

> **Vehicle placards:** Be prepared to provide four Class 6.2 vehicle placards (10.75in X 10.75in) per courier vehicle in case the courier does not have them available. These are displayed on 4 sides of the vehicle transporting the ERAP consignment.[8] Placards should have UN2814 printed on the centre. Placards may be purchased from suppliers of dangerous good supplies in preparation for a potential suspect case.

Shipping the packages:

- Inform the ERAP holder (the consignor) when the consignment(s) are being picked up and they will inform the stand-by teams.
- Each consignee (e.g. the receiving laboratory) informs the ERAP holder when their consignment is received.
- When the ERAP holder has been notified that the last consignment has been received, they notify the consignor and all consignees that the ERAP team is instructed to stand down.

Response to issues arising during transportation:

If spills occur during transport, immediately call:

- CANUTEC at 1-888-CAN-UTEC (226-8832), 613-996-6666 or *666 on a cellular phone.
- NML On-Call Director at 1-866-262-8433.

If other issues arise, the PHO laboratory may be able to help:

- Contact the PHO laboratory designated staff assigned to this response (see Communications Plan above), or
- Call PHO Customer Service Centre at 416-235-6556 or 1-877-604-4567 (Monday to Friday 7:30 a.m. – 7 p.m. and Saturday 8 a.m. – 3:45 p.m.), or the PHO Duty Officer after-hours 416-605-3113.

Additional resources on specimen testing and safety

Public Health Ontario

- PHO laboratory services and testing information – https://www.publichealthontario.ca/en/laboratory-services/about-laboratory-services
- PHO laboratory General Test Requisition – https://www.publichealthontario.ca/-/media/documents/lab/general-test-requisition.pdf

Public Health Agency of Canada:

- Zoonotics and Special Pathogens testing information – https://cnphi.canada.ca/gts/laboratory/1021
- Pathogen Safety Data Sheets and Risk Assessment (index) – https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment.html
- Canadian Biosafety Standards – Second Edition – https://www.canada.ca/en/public-health/services/canadian-biosafety-standards-guidelines/second-edition.html

Transport Canada

- Transportation of Dangerous Goods Regulations – https://tc.canada.ca/en/corporate-services/acts-regulations/list-regulations/transportation-dangerous-goods-regulations
- TDG Infectious Substance Bulletin – https://tc.canada.ca/en/dangerous-goods/shipping-infectious-substances

References

1. Minister of Justice. Transportation of dangerous goods regulations [Internet]. Ottawa, ON: Government of Canada; 2021 [updated 2021 Jun 23; cited 2022 Mar 11]. Available from: https://laws-lois.justice.gc.ca/PDF/SOR-2001-286.pdf

2. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Test information index: viral haemorrhagic fever including Ebola virus disease [Internet]. Toronto, ON: Queen's Printer for Ontario; 2022 [cited 2022 Mar 11]. Available from: https://www.publichealthontario.ca/en/laboratory-services/test-information-index/vhf-diagnostic-serology

3. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Test information index: herpes B virus – serology and PCR [Internet]. Toronto, ON: Queen's Printer for Ontario; 2022 [cited 2022 Mar 11]. Available from: https://www.publichealthontario.ca/en/Laboratory-Services/Test-Information-Index/B-Virus-Reference-Culture

4. Ontario Agency for Health Protection and Promotion (Public Health Ontario). Laboratory contact [Internet]. Toronto, ON: Queen's Printer for Ontario; 2022 [cited 2022 Mar 11]. Available from: https://www.publichealthontario.ca/en/laboratory-services/laboratory-contact

5. Ontario Agency for Health Protection and Promotion (Public Health Ontario). General test requisition [Internet]. Toronto, ON: Queen's Printer for Ontario; 2022 [cited 2022 Mar 11]. Available from: https://www.publichealthontario.ca/-/media/documents/lab/general-test-requisition.pdf?la=en

6. Transport Canada. Shipping infectious substances [Internet]. Ottawa, ON: Government of Canada; 2018 [updated 2018 Jul 9; cited 2022 Mar 11]. Available from: https://tc.canada.ca/en/dangerous-goods/shipping-infectious-substances

7. Transport Canada. List of vendors - type P620 and P650 packagings for infectious substances [Internet]. Ottawa, ON: Government of Canada; 2018 [updated 2018 Jan 4; cited 2022 Mar 11]. Available from: https://tc.canada.ca/en/dangerous-goods/list-vendors-type-p620-p650-packagings-infectious-substances

8. Transport Canada. TDG bulletin - shipping documents [Internet]. Ottawa, ON: Government of Canada; 2018 [updated 2018 Apr 25; cited 2022 Mar 11]. Available from: https://tc.canada.ca/en/dangerous-goods/tdg-bulletin-shipping-documents

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