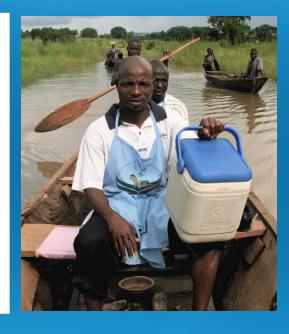
# Module 2. Clinical diagnosis, surveillance and laboratory investigation

Unit B. Specimen collection & transport







## Learning objectives



By the end of this unit...

- List specimens appropriate for monkeypox diagnosis
- Explain how specimens are collected
- Describe how specimens are stored, packaged, and transported



## Monkeypox: Which specimens to collect and when?

5-21 days

1-4 days

2-4 weeks

Days to weeks

Incubation period

Febrile stage

Rash stage

Recovery

No sample collected

Nasopharyngeal or oropharyngeal swab

Lesion fluid, Lesion roof or Lesion crust

Serum



#### Precautions for specimen collection

- IPC = Infection Prevention and Control
  - Personal protective equipment (PPE)
  - Hand hygiene
  - Environmental decontamination





## Labeling containers

- Prepare labels in advance with the
  - patient's name
  - case or surveillance number
  - place of origin
  - date of sampling, and
  - type of specimen.
- Cross-check that information on tubes and case investigation forms match





#### Oral / nasopharyngeal swabs – consumables



OR

Dry swab



Screwcapped plastic tube with O-ring

Dry polyester transport swabs

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## Oral / nasopharyngeal swabs – procedure



Brush tissue



Put swab in container



## Lesion roofs and fluid – consumables



**Alcohol wipe** 



Disposable scalpel or plastic scraper



Dry polyester transport swabs



Screwcapped plastic tube with O-ring



## Lesion roofs and fluid – procedure







Remove lesion roof



Brush lesion base



Put swab in container



Put roof in container



#### Lesion crusts – consumables



**Alcohol wipe** 



Sterile scalpel, lancet, plastic scraper, curette or needle



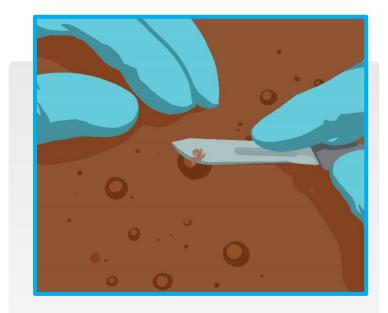
Screw-capped plastic tube with O-ring



# Lesion crusts – procedure



Sanitize lesions



Remove crusts



Put crust in container



#### Serum – consumables



**Alcohol wipe** 



Sterile
Syringe and needle



Serum separator tubes

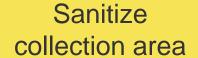


Screwcapped plastic tube with O-ring



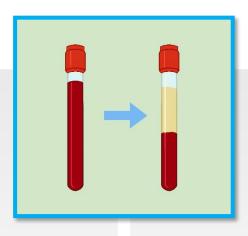
## Serum – procedure







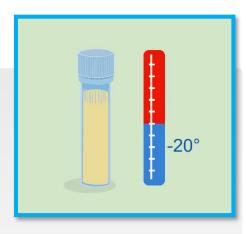
Draw blood



Allow to clot and centrifuge



Transfer serum into vials



Store tube at -20°C



## Storing specimens

- Keep specimens cold (+4°C) during transport
- Store in a freezer (-20 °C) or reliable refrigerator with daily temperature monitoring
- Store separately from vaccines, medicine and food

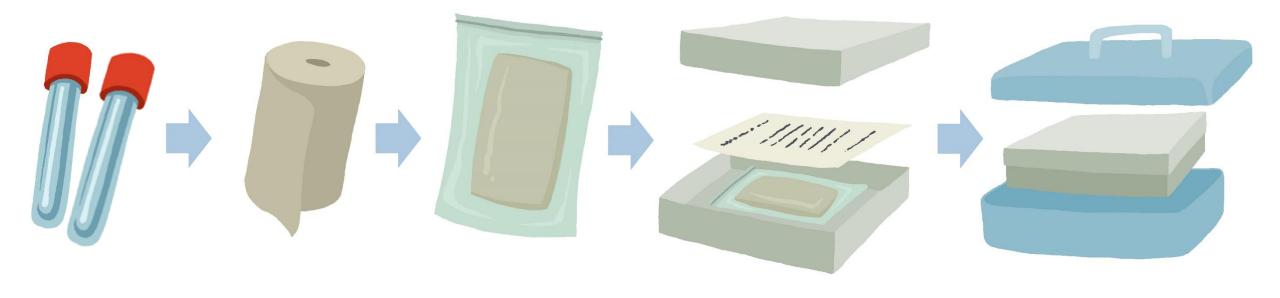


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## Basic triple packaging system



Primary watertight container

Wrapped in absorbent material

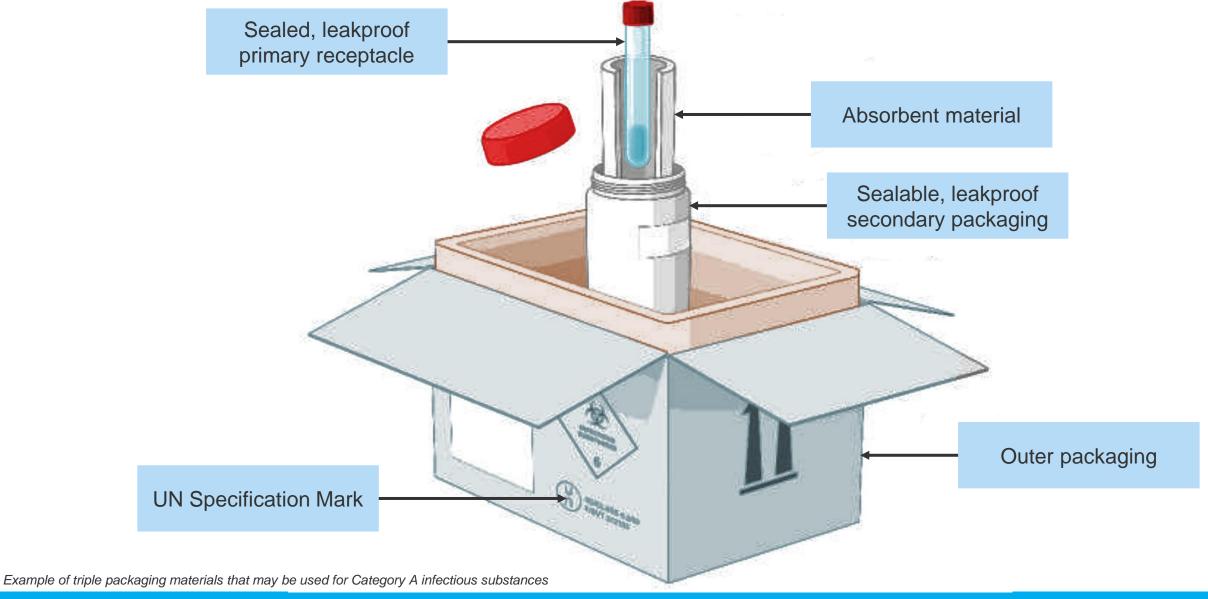
Secondary watertight packaging

Final rigid outer box

Cool box (or ice packs)



## Triple packaging for monkeypox specimens





## Specimen transport

- In accordance with national surveillance and laboratory guidelines
- Using the fastest mode of transport
- With trained drivers or riders
- Temperature: at 4°C





## Summary – Specimen collection & transport



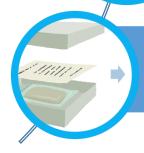
Which specimens to collect



How to collect specimens



IPC for specimen collection



Specimen packaging and transport



#### For more information

- WHO Guidelines for the collection of clinical specimens during field investigation of outbreaks: <u>link</u>
- WHO Guidance on regulations for the transport of infectious substances 2021-2022: applicable as from 1 January 2021: <u>link</u>
- WHO How to safely ship human blood samples from suspected Ebola or Marburg cases within a country by road, rail and seainterim guidance: <a href="mailto:link">link</a>
- WHO Health Security Learning Platform (EISST) Infectious substances shipping training: <u>link</u>

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