Integration of HIV and syphilis testing services as part of mpox response—Standard operating procedures

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Contents

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Standard Operational Procedure Development Group

Peer-review from external partners engaged in the mpox response

PATH, Médecins Sans Frontières and the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Member States and country offices

Republic Democratic of Congo

WHO Headquarters

Pascal Jolivet, Cheryl Johnson, Céline Lastrucci, Busisiwe Msimanga-Radebe (Department of Global HIV, Hepatitis and Sexually Transmitted Infections Programmes [HHS]) coordinated the overall development process under the leadership of **Meg Doherty** (Director, Department of HHS) and **Lorenzo Subissi** (WHO Health Emergencies Programme)

Abbreviations

AHD	advanced HIV disease
ANC	antenatal care
ART	antiretroviral therapy
BPG	benzathine penicillin G
CD4	cluster of differentiation 4 (immune cells)
EID	early infant diagnosis
IATA	International Air Transport Association
MSF	Médecins Sans Frontières (Doctors Without Borders)
NRL	national reference laboratory
PCR	polymerase chain reaction
PEP	post-exposure prophylaxis
PPE	personal protective equipment
PrEP	pre-exposure prophylaxis
RDT	rapid diagnostic test
RPR	rapid plasma regain
QMS	quality management system
SOP	standard operating procedure
UTM	universal transport medium
VL	viral load
VTM	viral transport medium
WHO	World Health Organization

Purpose and scope

This standard operating procedure (SOP) provides implementation guidance on integration of HIV and syphilis testing services with mpox testing. This is relevant as part of broader emergency response efforts for countries experiencing increased case reports and outbreaks of mpox. This integrated approach is intended to improve early detection and management and to enhance and streamline services.

The focus is on procedures for ensuring that HIV and syphilis testing are conducted when individuals are tested for mpox. This also includes conducting additional testing and laboratory evaluations for people diagnosed with HIV (or re-engaging in care) as well as those diagnosed with syphilis. This SOP outlines the steps for coordinating efforts with key stakeholders, including the ministry of health and current partners, laboratories and private-sector entities. This SOP applies to health care professionals, laboratory staff and partners involved in implementing testing and treatment.

Methods

This SOP was developed in response to Member States' request for a step-by-step guide for bi-directional HIV and syphilis testing within the mpox response. Existing and previously published WHO recommendations related to HIV and syphilis testing constitute the basis, such as the 2024 *Consolidated guidelines on differentiated HIV testing services (1)*.

As with all WHO documents, all external reviewers and contributors and non-WHO staff participating in the development of this document submitted declarations of interest and confidentiality statements to the WHO technical team. The WHO technical team reviewed all declarations and found no conflicts of interest sufficient to preclude anyone from participating in the review or the development of the document.

Responsibilities

Function	Activities
National programmes	• inclusion of mpox testing in national HIV and STI strategy • availability of consumables for projects within the country • provide list and location of the national reference laboratory (NRL) for the three diseases • trainings on mpox diagnostics.
Health care providers (clinician-nurses)	• Explain mpox, HIV and syphilis to clients • Collect lesion swabs for mpox testing • Perform testing for HIV and syphilis (can include a dual HIV/syphilis test) according to national algorithm • Collect blood tubes for HIV complementary tests (viral load (VL) and CD4). LFA CD4 can be used if available on-site and/or in the laboratory.

	• If a syphilis confirmation test is available at the laboratory, collect an additional blood sample in the appropriate tube for testing. • Provide treatment and/or refer for prevention, including deployment of network-based testing/contact tracing as required.
Medical biologist / laboratory expert / technicians	• Quality control of the samples • Quality control of shipment documents (ID/medical history) • Quality control of samples packaging • Identify the NRL to send the samples to. • Organize samples transportation to NRL. • Perform mpox testing (PCR) and HIV VL/early infant diagnosis (EID) – CD4. • Laboratory-based confirmatory testing for syphilis – for example, rapid plasma reagin (RPR) • Data sharing with surveillance team.
National reference laboratory	• Provide recommendations on pre-analytical requirements: sample type, matrix, acceptance and rejection criteria, sample storage conditions before and during transportation. • Provide test results within agreed timelines.

Procedure: Medical consultation for mpox

The procedure for consultation and sample collection for mpox involves several detailed steps, ranging from patient consultation to sample storage and transportation (Fig. 1 and Table 1). Below is a step-by-step outline of how the procedure is carried out, with the responsible person for each step specified.

Note: Mpox infection and breastfeeding management should follow recommendations from the *Clinical management and infection prevention and control for monkeypox: Interim rapid response guidance, 10 June 2022* (https://www.who.int/publications/i/item/WHO-MPX-Clinical-and-IPC-2022.1). *(2)*

More specifically, the NRL will be responsible for:

➔ specifying the ideal type of swab for mpox sample collection, taking into account the specific context, polymerase chain reaction (PCR) platforms in use, cold chain requirements and available reagent kits;

- ➔ providing instructions and recommendations for the collection of HIV and syphilis samples, detailing which specific blood tubes are needed, following the national guideline;
- ➔ offering comprehensive guidance on optimal storage conditions and transportation methods, selecting between road and air transport as necessary;
- ➔ overseeing the quality management system (QMS) to ensure the reliability of results and training protocols, thereby enhancing overall laboratory performance and compliance with standards.
- ➔ Provide recommendations for the management of positive and negative mpox samples, as well as the follow-up actions to take if additional tests are recommended (Figs. 2 and 3).

When air transport is used, the NRL-should provide details on the procedures for working with accredited airlines to ensure smooth customs clearance upon arrival at the airport.

Additionally, laboratories identified to receive samples from health facilities or sample collection sites will provide recommendations on the criteria for accepting or rejecting samples as well as relevant laboratory forms to use for sample transportation. This will help ensure that samples are delivered securely and efficiently to the nearest laboratory capable of performing mpox testing.

Step 1*: *Patient consultation (primary health care provider)

- **Responsible person**: Medical doctor, nurse, NRL, NRL technician.
- **Action**s

1. **Initial assessment**: Conduct a clinical evaluation of the patient based on symptoms, such as fever, rash and lesions, particularly on the face, hands and mucous membranes. Take a detailed medical history.

2. **Mpox risk assessment**: Assess the patient's risk factors for mpox, such as recent travel to areas with confirmed cases or contact with infected individuals.

3. **Informed consent**: Explain the procedure for sample collection and possible risks and benefits. Obtain verbal or written consent from the patient.

4. **Personal protective equipment (PPE)**: Ensure that the health care worker wears appropriate PPE (gloves, mask, face shield and gown) to prevent contamination and spread of the virus (Figs. 4 and 5).

Step 2: Sample collection preparation

- **Responsible person**: Medical doctor, nurse, NRL. laboratory technician or other trained authorized person, such as community worker or lay provider.

- **Actions**

    1. **Prepare materials**: Gather necessary materials, use dry swab or swabs provided with viral transport medium (VTM), gloves, a biohazard bag and specimen labels.

    2. **Label specimen container**: Label each swab and transport medium container with patient identification (name, date of birth and sample collection date).

    3. **Hand hygiene**: Perform hand hygiene before wearing gloves, according to infection control protocols.

    Note: Universal transport medium (UTM), in addition to dry swab and VTM, can be used for sample collection **only** if testing is performed on the GeneXpert Instrument System. Always refer to NRL recommendations for pre-analytical requirements.

Step 3: Collection of lesion swab

- **Responsible person**: Medical doctor, nurse, NRL, laboratory technician or other trained authorized person, such as community worker or lay provider.

    Actions (Fig. 6)

    1. **Select lesions**: The preferred specimen type for laboratory confirmation is skin lesion material. This includes swabs taken from the surface of the lesion, lesion exudate or lesion crusts.

    2. **Swab collection**: Specimens from two lesions should be collected in one single tube, preferably from different locations. Lesions, crusts and vesicular fluids should not be mixed in the same tube.

        - **Dry swab**: If using a dry swab, vigorously swab the base of the lesion to ensure adequate viral DNA is collected, making sure to rotate the swab to collect sufficient material.

        - **Swab in VTM**: If using VTM, vigorously swab the lesion to ensure adequate viral DNA is collected and, then, immediately place the swab into the transport medium and ensure that it is sealed properly.

Note: If UTM is used for mpox testing on the GeneXpert Instrument System, follow the same requirements as for the dry swab and VTM.

3. **Secure the sample**: Cap the tube or swab container tightly and ensure that it is placed in a secure, labelled biohazard bag.

Note: The definition of a suspected case includes symptomatic contacts with confirmed or probable mpox cases. Alternative specimen types, such as oropharyngeal swabs, can be collected in the absence of skin or mucosal lesions. However, such specimen types provide less sensitive results for diagnosis than material from skin lesions. For this reason, a negative result should be interpreted with caution. Blood specimens are generally not useful for diagnosis of acute illness, unless this is taken to rule out other infections.[1]

Step 4: Storage and transport of the swabs

- **Responsible person**: Medical doctor, nurse, NRL, laboratory technician.

Note: Always refer to NRL recommendations for pre-analytical requirements.

Actions

1. **Store at appropriate temperature**

Testing on the GeneXpert Instrument System *(4)*:

- If the sample is to be processed within 48 hours, store it at room temperature (15–30 °C) or refrigerated (2–8 °C).
- If the sample is to be processed between 48 hours and seven days, store it refrigerated (2–8 °C).
- If the sample will be processed after seven days, store it frozen (−20 °C or lower).

Testing on platforms <u>other than</u> the GeneXpert Instrument System:

- If the sample is to be processed promptly after specimen collection, store it at room temperature (15–30 °C).

[1] Diagnostic testing for the monkeypox virus (MPXV). Interim guidance, 2024. *(3)*

- If the sample will not be processed promptly after collection, store dry swabs, swabs in VTM or lesion crust(s) refrigerated (2–8 °C) for up to seven days.

- If the sample is not to be processed until after seven days, store the specimens frozen (−20 °C or lower).

Notes

➔ Swab specimens in VTM and lesion crusts stored frozen (−20 °C or lower) can be tested up to 30 days from the date of collection.

➔ Dry swabs stored frozen (−20 °C or lower) can be tested up to 60 days from the date of collection.

2. **Prepare for transport** (Table 1)

   - **For sample collection within a health care facility with an on-site laboratory**:
     Immediately place the swab or container in secondary containment, such as a sealed biohazard bag, for safe transport to the laboratory. The laboratory staff will then follow the necessary triple packaging protocol to prepare the sample for external referral, if required.

   - **For sample collection outside a health care facility**: When collecting samples outside a health care setting, ensure that the swab or container is packaged in accordance with the triple packaging regulations prior to transportation to the designated laboratory. This includes proper use of primary, secondary and outer packaging to comply with safety and regulatory requirements for referral.

Procedure: HIV and syphilis testing

Immunosuppressed individuals living with HIV are at a heightened risk of developing severe mpox disease. Consequently, in situations where cases or outbreaks are potentially linked to sexual transmission, or where immunosuppression is suspected or confirmed, patients with mpox who are of unknown HIV status should be tested for HIV in accordance with the current WHO consolidated guidelines on HIV testing services.

The procedure for HIV and syphilis testing among mpox probable cases must be carried out systematically to ensure optimal patient care. Fig. 7 details the testing strategy for dual detection of HIV and syphilis infection; Fig. 8 presents the HIV testing strategy specifically for those under

18 months of age. Any national guidance for syphilis testing in children should be followed according to the clinical case.

In this context two groups of populations will be tested: newly infected individuals and those already diagnosed with HIV who have stopped adhering to their treatment regimen for various reasons. This dual approach aims to identify and support both recently infected persons who may require immediate intervention and individuals who are already aware of their status but may need assistance in re-engaging with effective care.

Step 1: Offer HIV and syphilis testing

- **Responsible person**: Medical doctor, nurse, counsellor, NRL or other trained authorized person, such as a community worker or lay provider.

- **Actions**

    1. **Counsel the client**

        - **For adults (≥18 years old)**: Explain the purpose of testing for HIV and/or syphilis. Discuss the testing process, confidentiality and how the results will be used (Fig. 9). This is most commonly going to utilize a rapid diagnostic test or self-test.

        - **For minors (<18 years old):** Parents/guardians will be invited for a counselling session, during which comprehensive information about the HIV and syphilis (*if reason to suspect syphilis infection*) testing process for their children will be provided. This session will cover the purpose of the test, how it will be conducted, the confidentiality of results and what steps will be taken based on the outcome, ensuring that all concerns are addressed and parents/guardians feel fully informed and supported throughout the process. Adhere to existing policies and practices for age of consent for standard testing services and messages to support mature minors and those from key and vulnerable populations.

    2. **Single or dual testing**: Offer either single tests for HIV and syphilis or a dual test (if available), based on stock and the patient's clinical needs.

    3. **HIV diagnosis** needs to be done using the current national HIV algorithm. WHO recommends a serial three-test strategy (three consecutive reactive tests for a positive diagnosis) (Fig. 10).

    4. **Rapid testing procedures**

        - After adding the specific amount of blood sample, apply the provided buffer solution to the test device, as per the manufacturer's instructions.

- **Wait for results**: Set a timer for the required waiting time, as per the manufacturer's instructions (usually between 10 to 20 minutes).

- **Interpret the test**: After the allotted time, read the results according to the kit's instructions:

    - **HIV test**: A single line indicates a negative result, while two or three lines (for HIV1/2 discriminant or Ag/Ab HIV tests, respectively) indicate a positive result (regardless of intensity).
    - **Syphilis test**: Similarly, one line is negative, and two lines suggest a positive result.

  If the control line is not visible, the test is invalid and needs to be done with another test, even if the patient line is visible.

- **Dispose of waste properly**: Place the used lancet testing kit and gloves in a biohazard waste container and dispose of the lancet in a sharps container.

Note: Follow recommendations from WHO guidelines:

➔ Consolidated guideline on HIV prevention, testing, treatment, service delivery and monitoring: recommendations for a public health approach, July 2021. *(5)*

➔ Consolidated guidelines on differentiated HIV testing services, 19 July 2024. *(1)*

For children under 18 months of age, **rapid diagnostic tests for HIV should not be used** due to maternal antibody interference. Follow the early infant diagnosis (EID) protocol, which typically involves NAT testing.

Step 2: HIV and syphilis treatment initiation

- **Responsible person**: Medical doctor, nurse, counsellor or other trained authorized provider, including community worker or lay provider.

- **Action**: Follow the national HIV and syphilis treatment guideline.

Step 3: Blood sample collection (recommended but not mandatory)

- **Responsible person**: Medical doctor, nurse, NRL, laboratory technician or other trained and authorized person

- **Actions**: Follow the national regulations regarding blood collection.

1. Collect samples for patients newly diagnosed with HIV to assess CD4 (in case of advanced HIV disease (AHD) and an additional tube if syphilis rapid diagnostic test for confirmatory test is positive (if available in the laboratory).

2. Individuals with HIV who later report that they are not on antiretroviral therapy (ART) and are re-engaging in care also need CD4 counts, as there may be a higher risk of AHD,

Step 4: Sample shipment and transportation

- **Responsible person**: Medical doctor, nurse, NRL, laboratory technician, logistics personnel.

- **Actions**

    1. **Packaging procedure (triple packaging system)** *(6)*

    Mpox patient diagnostic samples (lesions swab) and blood tubes (HIV/syphilis)

    Note: If using air transportation, use Category B, UN3373 packaging.

    - **Primary container**: Place the lesion swabs in properly labelled dry swab containers or VTM/UTM and collect blood samples in appropriate labelled tubes (EDTA/SST tubes). Wrap the tube in absorbent material to contain leaks.

    - **Secondary container**: Place the blood tube in a sealed biohazard bag.

    - **Outer packaging**: Place both the HIV blood sample and the mpox sample in the same rigid insulated box, ensuring temperature control using cold packs or dry ice if necessary.

    Mpox viral isolates and cultures

    Note: If mpox viral isolates and cultures are to be shipped, follow appropriate biosafety and shipping regulations: (Category A): Label with UN 2814, “Infectious Substance Affecting Humans” and include the biohazard symbol.

    - **Primary container**: Place the mpox sample (for example, swab from lesion) in a leak-proof, labelled tube. Wrap in absorbent material.

    - **Secondary container**: Place the primary container into a sealed, leak-proof biohazard bag.

    - **Outer packaging**: Use a rigid insulated box with cold packs or dry ice if needed. Ensure the package is sturdy enough to prevent damage.

Labelling

- Mpox (lesions swab), HIV, syphilis samples (Category B): Label with UN 3373, “Biological substance, Category B.”
- If using dry ice, add a UN 1845 label.
- Clearly mark the outer packaging as “Biological substance”.
- Include the sender’s and recipient's contact details, ensuring that the national laboratory’s information is provided.

Documentation

- Attach required laboratory and surveillance submission forms for mpox, HIV and syphilis samples, including patient information, sample type and date of sample collection.
- Ensure that the forms are securely placed on the outer packaging in a plastic pouch to prevent damage.

Transportation

- Select a certified carrier or use an integrated sample transportation systems and networks (for example, national HIV/TB programme, UN organization, nongovernmental organization) for the shipment of biological samples.
- Ensure that the courier follows national and international regulations for transporting infectious substances (International Air Transport Association (IATA) regulations).
- Use tracking to monitor shipment and confirm delivery to the national lab.

Step 5: Counselling and reporting results

Responsible person: Medical doctor, nurse, NRL or counsellor.

Action

- **Plan follow-up**
  – Mpox: Symptoms typically last 2–4 weeks but may last longer in someone with a weakened immune system. Health care provider will advise on recovering in a facility or at home (Fig. 11).
  – HIV and syphilis: Follow national guideline and adhere to medical recommendations.

Proposed follow-up

If positive for HIV and/or syphilis:

- **For HIV:** Follow standard national algorithm if confirmed positive. Refer for rapid ART initiation. (If negative, adhere to national guidelines and deliver evidence-based prevention as needed (condoms, PrEP, PEP, etc.).)

  Note: Recommended but not mandatory**:** Collect blood tubes for CD4 testing to assess conditions of person diagnosed with HIV (evaluation for possible AHD).

- **For syphilis:** Treat the patient immediately, following established guidelines, without waiting for confirmatory test.
  - Notably, treat all pregnant women with syphilis-reactive RDT results with the first dose of benzathine penicillin G (BPG) at point of care.
  - Treat if patient cannot recall previous BPG injections. For persons who recall previous treatment, re-infection is possible. Treatment could be deferred until the non-treponemal test results are available. However, if clinical suspicion is high, or loss to follow-up is a possible concern, consider treating at the clinic visit.

Fig. 1. Suggested algorithm for mpox assessment and testing

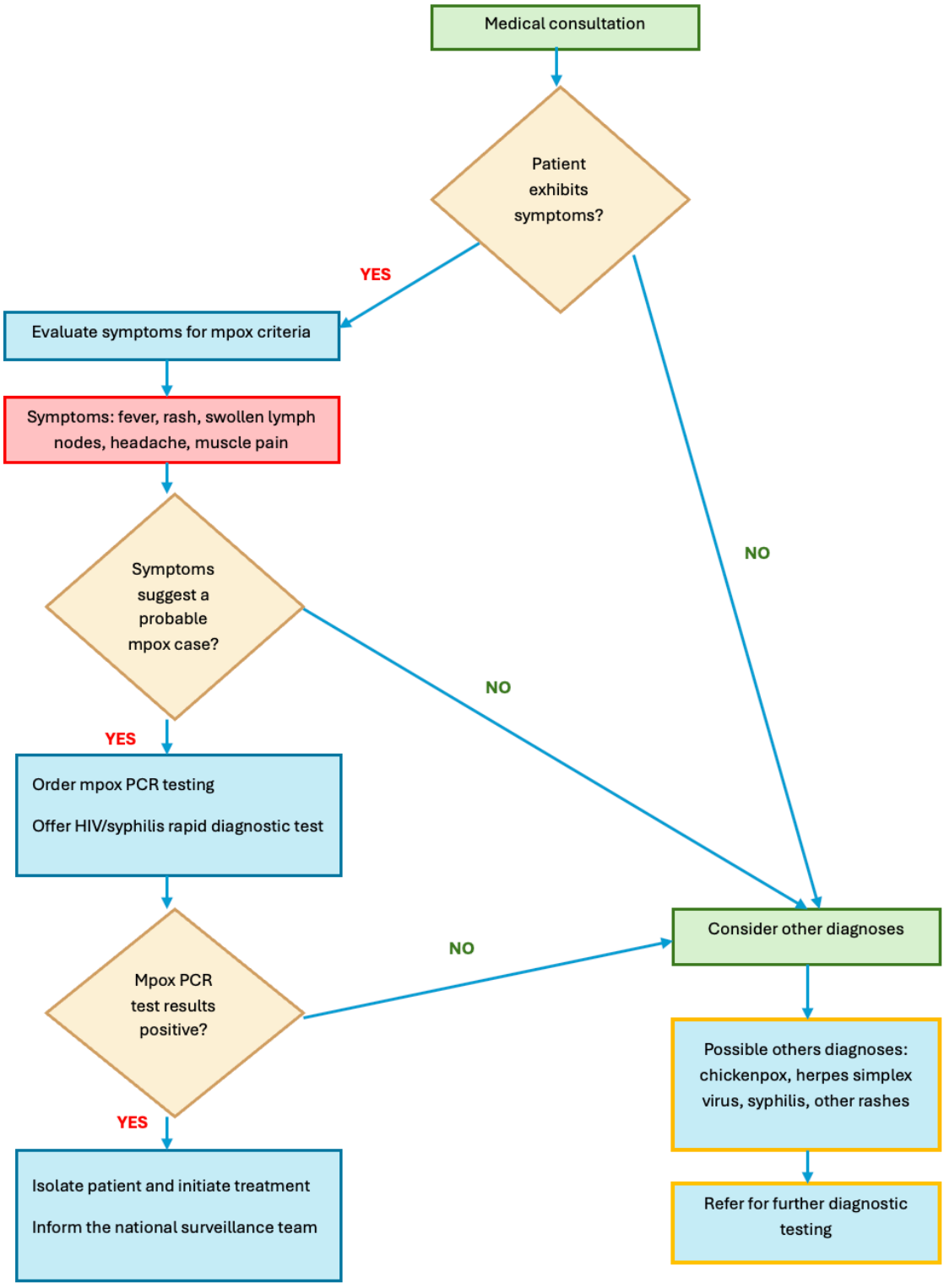
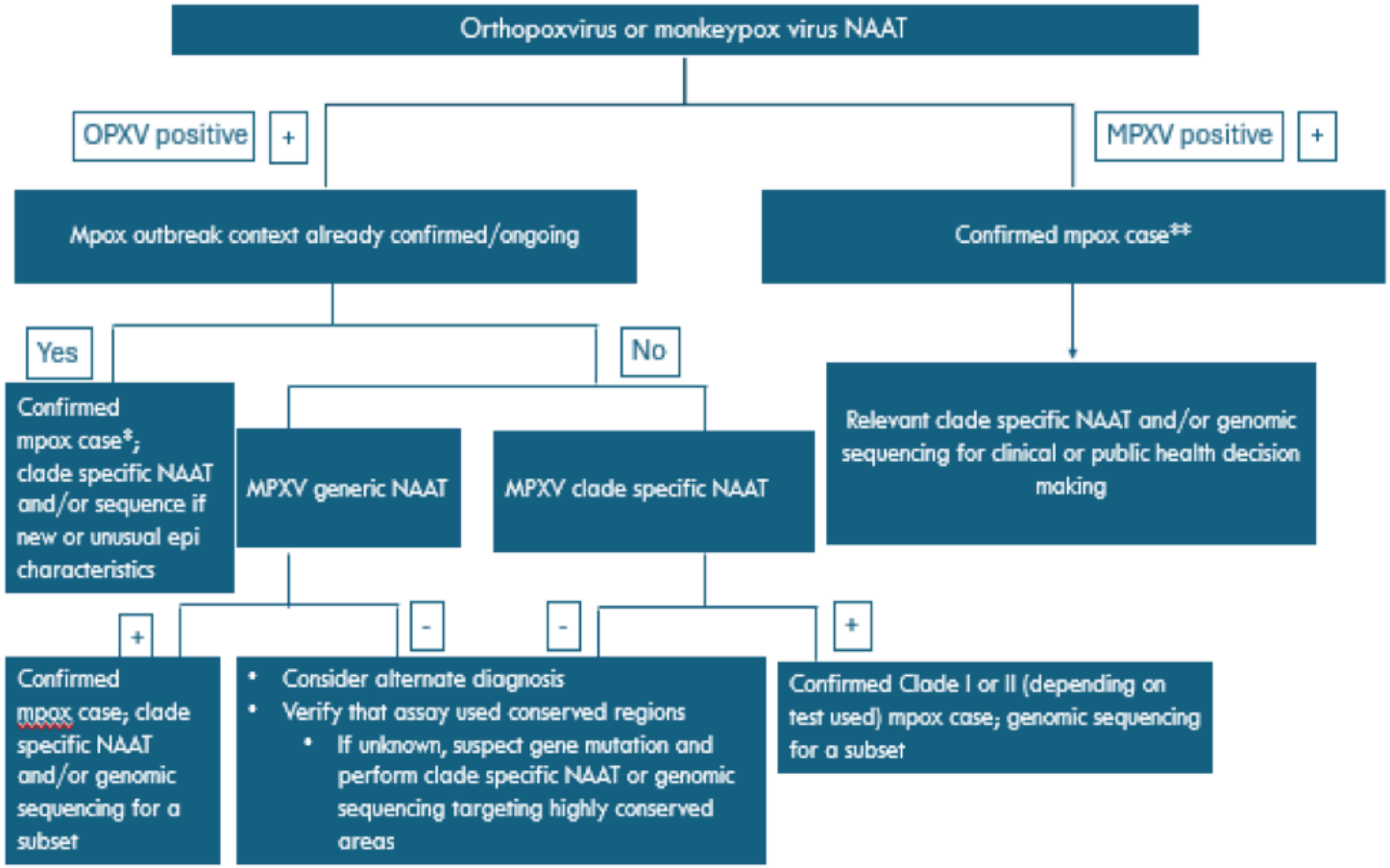


Table 1. Regulations and recommendations for mpox and blood sample transport conditions by car/air/public transport

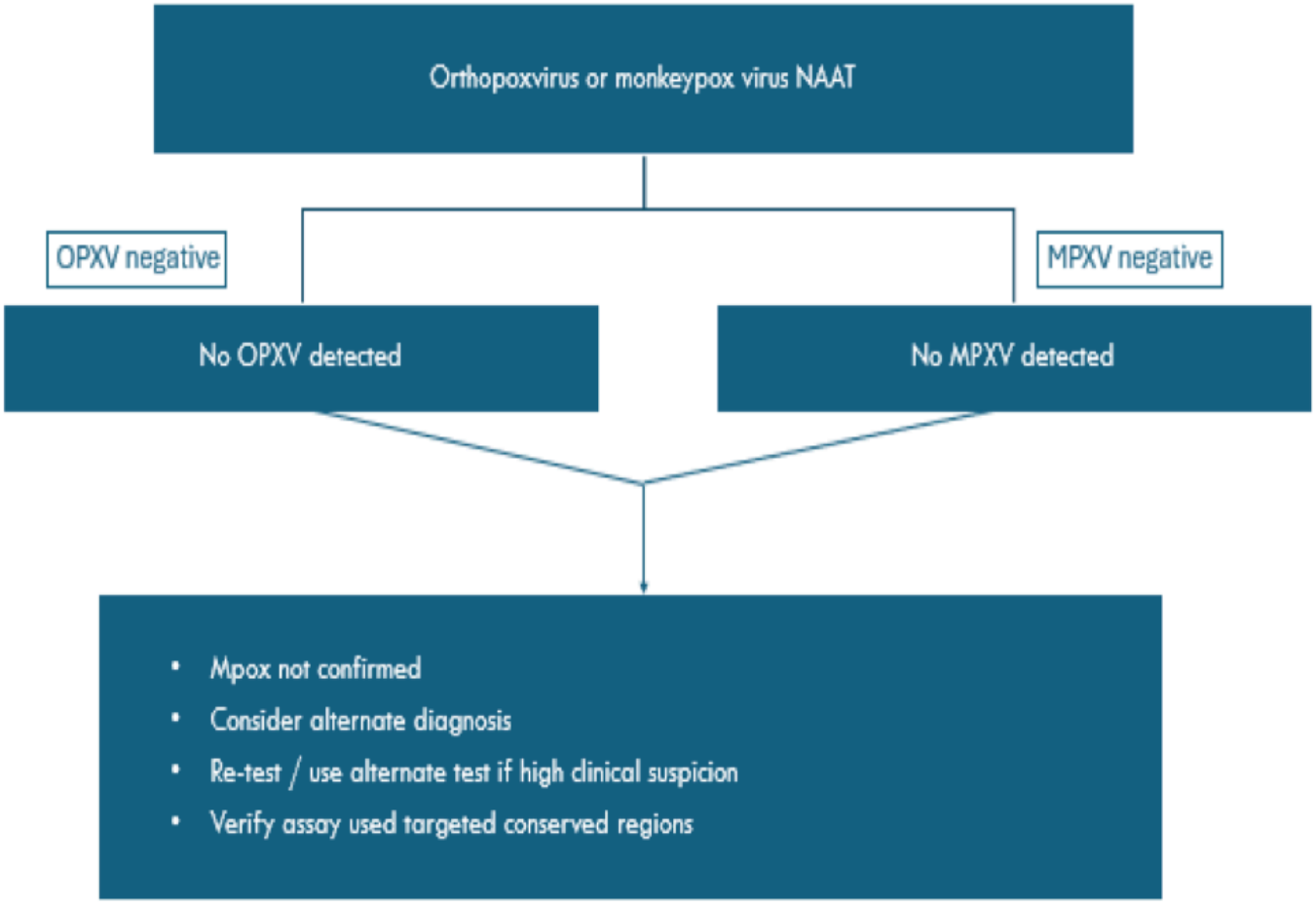
Aspect	**Mpox lesion swabs & blood samples** *Packing instruction P650 (Category B packaging requirements)*	**Mpox isolates and culture samples** Packing instruction P620 (Category A packaging requirements)
Primary packaging	Leak-proof, shatterproof, pressure-resistant container (95 kPa)	Leak-proof, shatterproof, pressure-resistant container (95 kPa) as well as temperatures in the range of -40 °C to +55 °C.
Secondary packaging	Leak-proof, shatterproof, pressure-resistant container (95 kPa) if primary containier do not follow these requiremnts	Leak-proof, shatterproof, with absorbent material (pressure-resistant container (95 kPa) as well as temperatures in the range of -40 °C to +55 °C if primary containier do not follow these requiremnts
Outer packaging	Rigid packaging (cardboard or plastic) with UN3373 label	Rigid, durable, impact-resistant, UN-approved, marked with UN2814 label
Temperature control	Insulated packaging with gel packs, ice packs and thermometer	Insulated packaging with gel packs, ice packs and thermometer
Labelling	UN3373 label (diamond-shaped), sender/recipient details	UN2814 label (diamond-shaped), "Infectious Substance" mark, sender/recipient details, emergency contact info
Documentation	Not typically required for ground transport; air transport may require declaration	Dangerous Goods Transport Documents (DGTD), emergency contact info, medical handling instructions
Spill kit requirement	Recommended, especially for large volumes or sensitive substances	Mandatory, along with PPE (personal protective equipment)
Driver/handler training	Recommended but not as stringent as for UN2814	Required for hazardous materials (Category A pathogens)
Transport by car	Standard triple packaging with secure storage in vehicle	Rigid containers with spill-proof packaging and training for handling emergencies
Transport by air	***IATA packing instruction 650***, compliant packaging with temperature control, necessary documentation. ***Identify airlines*** in advance that allow the transportation of UN3373 materials. ***Organize reception*** with customs/authorities and arrange storage space at the airport	***IATA packing instruction 620***, pressure-resistant containers, Dangerous Goods Declaration (DGD). ***Identify airlines*** in advance that allow the transportation of UN2814 materials. ***Organize reception*** with customs/authorities and arrange storage space at the airport

Fig. 2. Laboratory testing algorithm for clinical management and surveillance of mpox virus: positive result



MPXV = mpox; NAAT = new nucleic acid amplification test; OPXV = orthopoxvirus.
* This applies in resource-limited settings and provided that other orthopoxviruses do not co-circulate in humans; otherwise, a MPXV-specific or MPXV clade-specific test is required for confirmation.
** If resources allow, sample should be further characterized in a reference laboratory.
Source: Diagnostic testing for monkeypox virus (MPXV): interim guidance, 2024. *(3)*

Fig. 3. Laboratory testing algorithm for clinical management and surveillance of mpox virus: negative result

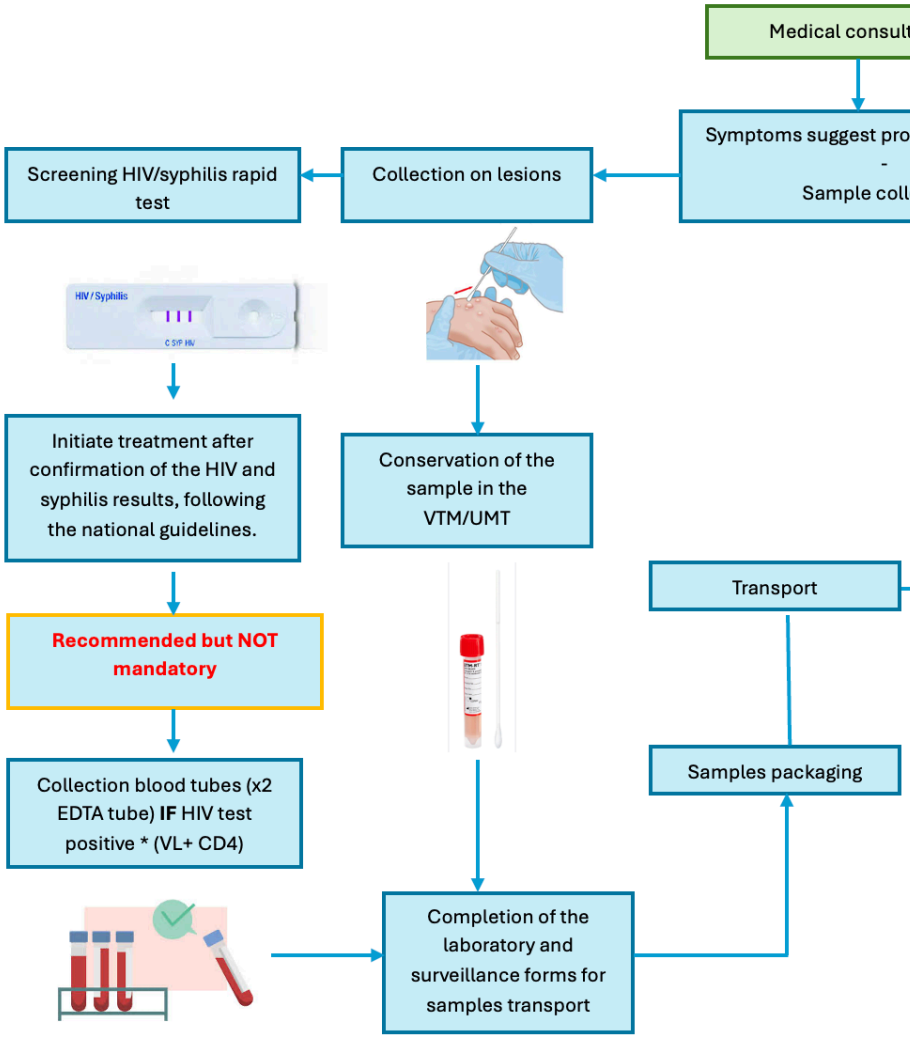


MPXV = mpox; NAAT = new nucleic acid amplification test; OPXV = orthopoxvirus.
Source: Diagnostic testing for monkeypox virus (MPXV): interim guidance, 2024. *(3)*

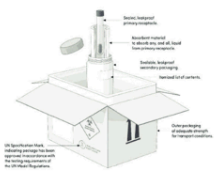
Fig. 4. WHO-recommended steps to put on PPE for mpox (7)

Fig. 5. WHO-recommended steps to remove PPE for mpox (8)

Fig. 6. Suggested algorithm for mpox sample collection and transport

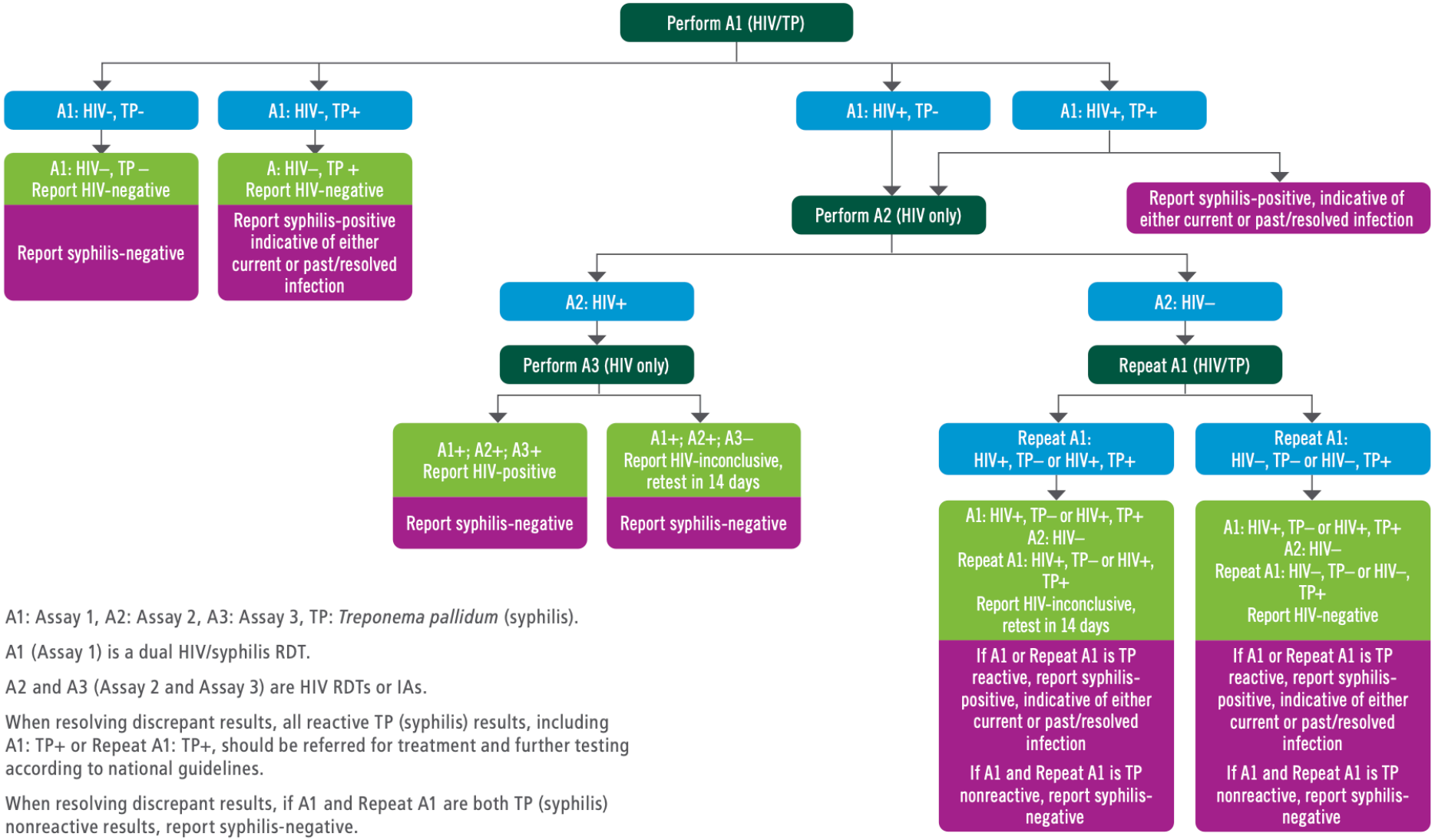


*Following the "*WHO-recommended testing strategy for dual detection of HIV and syphilis infection in ANC setting*" from "*Consolidated Guideline on HIV Testing services 2019*" (11)

Aspect	*Transport by car*	*Transport by air*	*Transport by public transport*
Mpox cultures and isolates samples *Packing instruction P620 (Category A packaging requirements)*	Rigid containers with spill-proof packaging and training for handling emergencies	***IATA packing instruction 620***, pressure-resistant containers, Dangerous Goods Declaration (DGD). ***Identify airlines*** in advance that allow the transportation of UN2814 materials. ***Organize reception*** with customs/authorities and arrange storage space at the airport	Discouraged unless absolutely necessary, secure packaging, spill-proof, and emergency preparedness
Mpox swabs and blood samples *Packing instruction P650(Category B packaging requirements)*	Standard triple packaging with secure storage in vehicle	***IATA packing instruction 650***, compliant packaging with temperature control, necessary documentations. ***Identify airlines*** in advance that allow the transportation of UN3373 materials. ***Organize reception*** with customs/authorities and arrange storage space at the airport	Allowed, but should use secure, discreet packaging with proper labels
			

MPXV = mpox; NAAT = new nucleic acid amplification test; OPXV = orthopoxvirus.

Fig. 7. WHO-recommended testing strategy for dual detection of HIV and syphilis infection



A1: Assay 1, A2: Assay 2, A3: Assay 3, TP: *Treponema pallidum* (syphilis).

A1 (Assay 1) is a dual HIV/syphilis RDT.

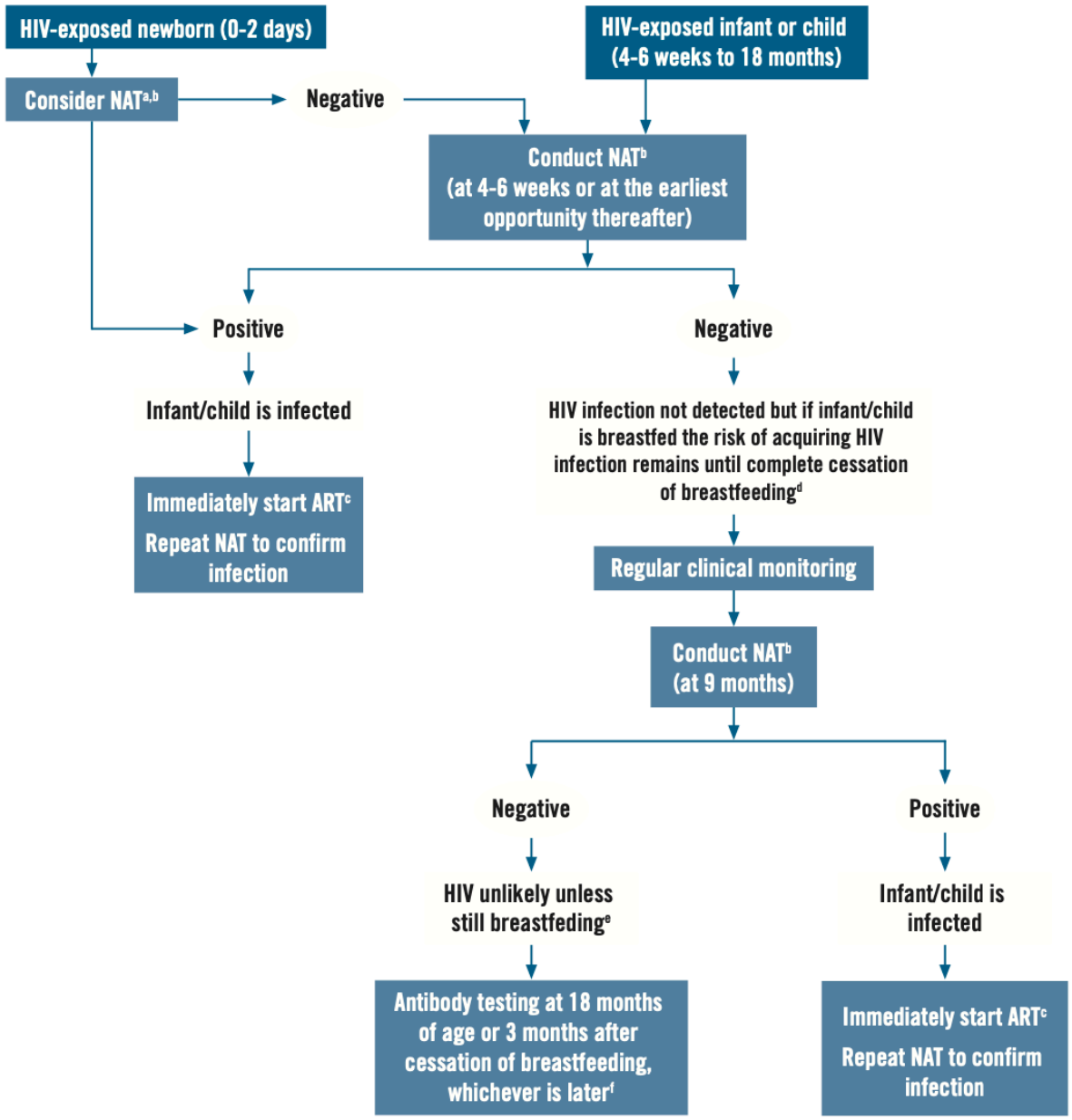
A2 and A3 (Assay 2 and Assay 3) are HIV RDTs or IAs.

When resolving discrepant results, all reactive TP (syphilis) results, including A1: TP+ or Repeat A1: TP+, should be referred for treatment and further testing according to national guidelines.

When resolving discrepant results, if A1 and Repeat A1 are both TP (syphilis) nonreactive results, report syphilis-negative.

Source: Consolidated guidelines on differentiated HIV testing services, 2024. *(1)*

Fig. 8. WHO-recommended HIV testing strategy for HIV-exposed newborn/infant/children under 18 months of age

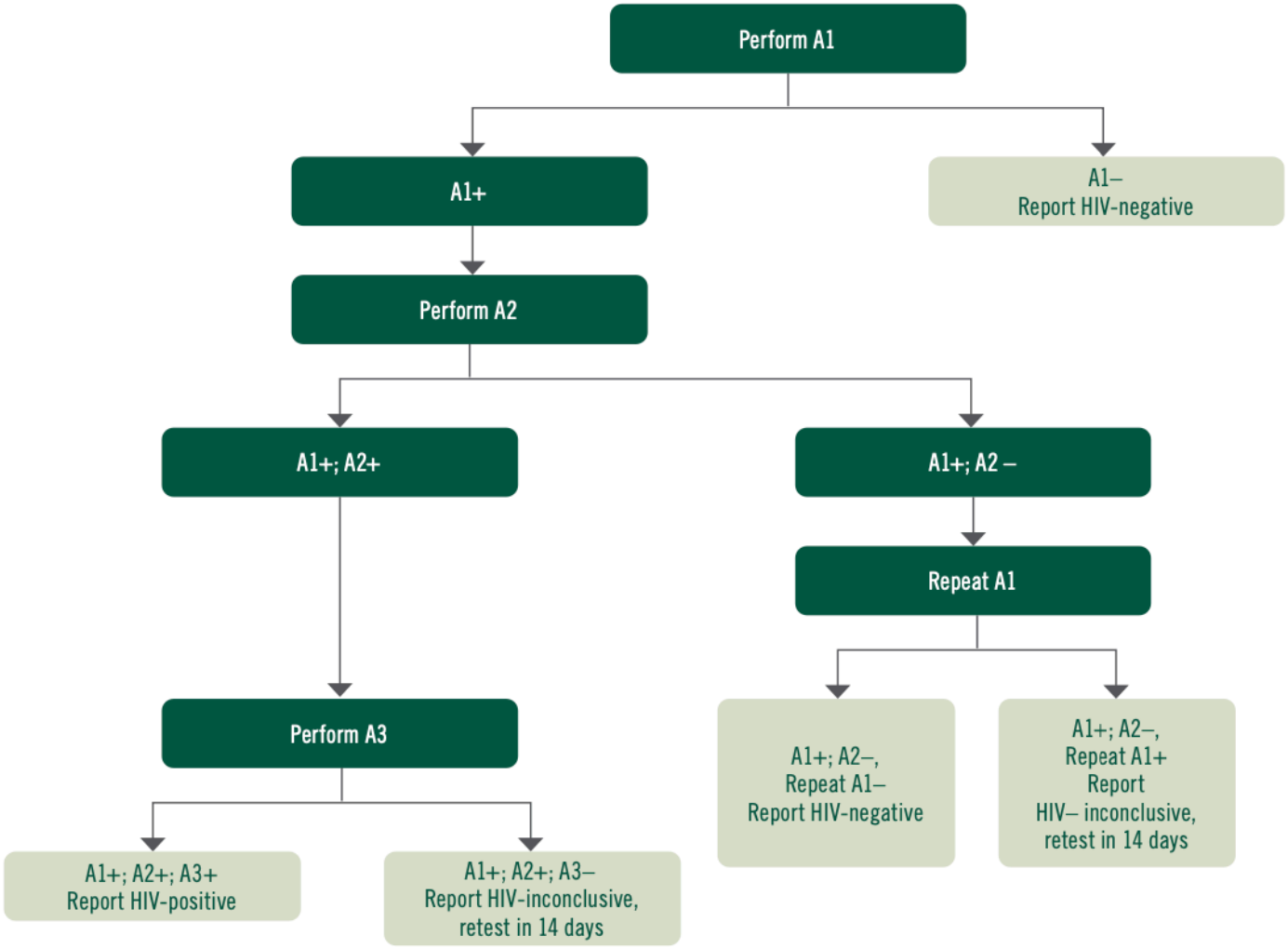


[a] Based on 2016 WHO Consolidated ARV Guidelines, addition of NAT at birth to the existing testing algorithm can be considered.
[b] Point-of-care NAT can be used to diagnose HIV infection as well as to confirm positive results.
[c] Start ART without delay. At the same time, retest to confirm infection. As maternal treatment is scaled up and MTCT transmission rates decrease, false-positive results are expected to increase: retesting after a first positive NAT is hence important to avoid unnecessary treatment, particularly in settings with lower transmission rates. If the second test is negative, a third NAT should be performed before interrupting ART.
[d] For children who were never breastfed, additional testing following a negative NAT at 4–6 weeks is included in this algorithm to account for potential false-negative NAT results.
[e] The risk of HIV transmission remains as long as breastfeeding continues. If the 9-month test is conducted earlier than three months after cessation of breastfeeding, infection acquired in the last days of breastfeeding may be missed. Retesting at 18 months or three months after cessation of breastfeeding (whichever is later) should be carried out for final assessment of HIV status.
[f] If breastfeeding extends beyond 18 months, the final diagnosis of HIV status can be assessed at the only end of breastfeeding. If breastfeeding ends before 18 months, the final diagnosis of HIV status with antibody testing can be assessed only at 18 months. Antibody testing should be undertaken at least three months after cessation of breastfeeding (to allow for development of HIV antibodies). For infants younger than 18 months of age, NAT should be performed to confirm infection. If the infant is older than 18 months, negative antibody testing confirms that the infant is uninfected; positive antibody testing confirms that the infant is infected.

ART = antiretroviral therapy; NAT = nucleic acid test
Source: HIV diagnosis and ARV use in HIV-exposed infants: a programmatic update, 2018. *(9)*

Fig. 9. Mpox testing information: Getting tested for mpox: What you need to know (10)

Fig. 10. WHO-recommended testing strategy using three consecutive tests for a positive diagnosis



A1: Assay 1 (first test); A2: Assay 2 (second test); A3: Assay 3 (third test).

Source: Consolidated guidelines on differentiated HIV testing services, 2024. *(1)*

Fig. 11. Recovering from mpox at home

Figures / Tables / Annexes

References

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Document History

Version	Changes
1.0	

Annex 1

SOP-XXX-NN-XXXX
Review Log
To be completed for each review of an approved SOP

SOP Version Number	Review Date	Revision Required	Reviewer Name (printed) Reviewer Signature
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Department of Global HIV, Hepatitis and STIs
World Health Organization
20 Avenue Appia
1211Geneva 27
Switzerland