

# Syphilis/HIV Rapid Point-of-Care Testing and Treatment in Acute Care and Community Sites: Guide to Good Clinical Practices

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This guide has been prepared by Primary Care Alberta, STI Services in partnership with the steering committee of Syphilis and HIV rapid/point-of-care testing in Acute Care and Community sites (SHACC).

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## Acronyms and terms

AHS: Alberta Health Services

APL: Alberta Precision Laboratory

HIV: Human immunodeficiency virus

MRP: Most responsible provider

MOH: Medical Officer of Health

NAT: Nucleic Amplification test

PCA: Primary Care Alberta

PHAC: Public Health Agency of Canada

PPHS: Primary and Preventative Health Services, Government of Alberta

RPOCT: Rapid point-of-care testing

RPR: Rapid plasma reagin

STBBI: Sexually transmitted and bloodborne infections

STI: Sexually transmitted infection

STICS: STI Centralized Services

**Specificity:** Measure of how accurately a test can identify samples that do not have a disease. High specificity decreases the probability of false positive results.

**Sensitivity:** Measure of how accurately a test can identify the presence of a disease. High sensitivity decreases the probability of false negative results.

## Introduction

This guide provides information on the use of the RPOCT for syphilis and HIV. Use in conjunction with the APL Standard Operating Procedures for Point-of-Care HIV Syphilis testing found at: [Provincial HIV Syphilis Testing Program](#).

### Intended audience

Intended for PCA and AHS healthcare providers offering RPOCT for syphilis and HIV to people being screened for syphilis and HIV using standard serological testing.

### Purpose

To provide an overview of the bioLytical INSTI Multiplex HIV-1/HIV-2/Syphilis test and its intended use for testing, treatment, public health reporting, and follow-up.

### Background

In 2019, a provincial syphilis outbreak was declared due to the rapid rise in syphilis cases.<sup>(1)</sup> In 2014, there were 160 cases reported and no babies were born with syphilis. Between 2015 and 2025, nearly 21,000 infectious syphilis cases were reported in adolescents and adults and more than 430 cases in babies.<sup>(2-3)</sup> Cases continue to be reported in 2026. These high levels of syphilis have not been reported since the 1940's.

RPOCT has increased access to testing and same-visit treatment for populations in both acute care and community settings who may experience difficulties in accessing traditional healthcare options (for example: people residing in rural and remote communities, correctional facilities, and unstable housing).<sup>(4-6)</sup> In Alberta, RPOCT has contributed to the decrease in syphilis rates as use has been adopted across the province.<sup>(7)</sup> The bioLytical INSTI Multiplex HIV-1/HIV-2/Syphilis RPOCT was approved for use in Canada in March 2023. Results are available in under five minutes; results are considered preliminary and require confirmatory testing from a parallel serum specimen using standard laboratory algorithms for syphilis and HIV.

A positive RPOCT result for syphilis, together with an assessment of the patient's clinical and treatment history for syphilis, can be used to offer immediate syphilis treatment, which can prevent ongoing disease transmission, progression, and complications. For positive RPOCT results for HIV, post-test counselling and linkage to support for preliminary HIV results can be provided immediately.

All positive RPOCT results for syphilis and HIV are reported to STICS to ensure linkage to care, treatment and follow-up are complete, as well as contact notification, once confirmatory results become available.

## Test kit performance

The performance of the bioLytical INSTI Multiplex HIV-1/HIV-2/Syphilis RPOCT was evaluated in an Alberta study assessing both HIV and syphilis detection. Using whole blood, the test demonstrated an overall For HIV sensitivity of 100% (95% CI, 86.2-100%) and specificity of 99.6% (95% CI, 99.1-99.8%). The overall syphilis sensitivity was 76.7% (95% CI, 72.7%–80.2%) compared with standard serologic screening. Among individuals with reactive treponemal serology and RPR titres greater than 1:8, sensitivity increased to 97.9% (95% CI, 95.1%–99.1%) and specificity was 99.8% (95% CI, 99.2%–99.9%).<sup>(4)</sup> Similar sensitivity (93.8%–100%; 95% CI: 82.5%–100%) was found when compared to sera with RPR titres greater than 1:8.<sup>(8)</sup>

### Limitations

The main limitation of RPOCT syphilis test is its low sensitivity with **falsely negative** test results for patients with syphilis and RPR titer less than 1:8 dilutions, which is seen at a very early stage and late stage of infection.<sup>(9)</sup> In addition, since the RPOCT for syphilis is a treponemal test which can remain positive for life after previous infection, a positive RPOCT syphilis test cannot differentiate between a new infection and an adequately treated prior infection (**falsely positive**).<sup>(6,9)</sup> **For these reasons, do not base treatment decisions on the RPOCT syphilis test result alone.**

The RPOCT for HIV may produce **false positive** results (when screening in low prevalent populations) or **false negative** results (early in the infection) in some instances.

**All syphilis and HIV RPOCT results are considered preliminary and must be confirmed with standard serological testing.**

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## Provincial guidelines for STBBI screening and treatment

Consider offering STBBI screening to all people as part of routine care to normalize testing and reduce stigma.

Screening is recommended every 3-6 months for all asymptomatic people who are sexually active with new, anonymous or multiple partners, as per the [Interim STI Outbreak Screening Guidelines](#).

All contacts, regardless of signs or symptoms, should be tested and offered empiric treatment, as applicable, as per the [Alberta Treatment Guidelines for Sexually Transmitted Infections \(STI\) in Adolescents and Adults \(2018\)](#).

### Syphilis

Early incubating syphilis cases may be negative when tested prior to development of an antibody response. Repeat serology at 2-3 weeks for people at risk for syphilis after initial test to observe for rise in RPR titres or EIA/TPPA seroconversion.<sup>(10)</sup>

#### Treatment and follow up

Syphilis diagnosis and management are complex. Make treatment decisions in conjunction with the patient's current history, such as symptoms and signs, sexual history, HIV status, pregnancy status if applicable.

History of previous treatment, case consultation, and access to provincially funded syphilis treatment is available through STICS. Case consultation for syphilis can prevent unnecessary treatment for previously adequately treated or previously reported cases.<sup>(11)</sup>

Serology for syphilis may stay positive for life, even if they are adequately treated. People can be re-infected if they're exposed again.

For healthcare providers and patient resources on syphilis see [Appendix A: Resources](#).

### HIV

The incubation period for HIV is variable. The time frame from infection to detectable antibodies can range from 2 weeks to 12 weeks, although 95% of people are detectable within 35 days.<sup>(12)</sup> Consider repeat testing after negative results based on exposure history and health history.

For more information on HIV testing see [Appendix A: Resources](#).

#### Treatment and follow-up

Patients should be referred to a specialized HIV healthcare provider for treatment and follow-up.

For additional information on HIV, treatment and follow-up see [Appendix A: Resources](#).

## Program considerations for RPOCT use

The development of site-specific policies for RPOCT are recommended. These include:

- understanding the acceptability for and by the population.<sup>(9)</sup>
- inclusion and exclusion criteria.
- criteria for administering immediate treatment and when consultation with the MRP is required.

Healthcare provider knowledge components:

- sexual history and symptom inquiry.
  - knowledge of standard syphilis testing, specimen collection, serology interpretation, clinical management, medication administration, and follow-up serology requirements.
  - knowledge of standard HIV testing, pre and post-test counselling, and linkage to care.
  - liaising with specialists for help with staging, treatment, or potential serious complications (neurosyphilis).
  - patient counselling on STI/HIV risk reduction.
  - partner management.
  - documentation requirements (including public health reporting requirements to STICS).
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## Intended use of RPOCT

RPOCT is intended to rapidly identify new cases of syphilis and HIV to provide treatment or linkage to care. Patients who benefit from RPOCT include but are not limited to: people at risk of being lost to follow-up, and people belonging to groups disproportionately affected by STBBIs.<sup>(4-6,9)</sup> These may be people who are:

- difficult to locate (unstable housing, substance use).
- tested at correctional facilities, short term detox facilities, emergency departments, urgent care centers.
- have difficulty accessing care (lack of transportation, reside in rural or remote area)

**Do not** use RPOCT in patients with a prior history of syphilis; collect standard serology.

RPOCT cannot differentiate between a previously treated and a current infection. Offer these patients standard serological testing for syphilis and treatment if they are symptomatic or a sexual contact to known cases.

Use RPOCT for patients that meet all inclusion criteria and have no exclusion criteria, in addition to any program-specific criteria:

### Inclusion criteria

- Unknown syphilis status or previously tested negative AND have one of the following indications:
  - Pregnant with unknown syphilis status.
  - Pregnant with ongoing risk factors and a negative syphilis test in the current pregnancy.
  - At risk of syphilis/HIV infection being lost to follow-up.
  - Recent contact with a person with known or suspected syphilis and/or HIV infection<sup>1</sup>.
  - Differential diagnosis of syphilis and/or HIV<sup>1</sup>.<sup>(12)</sup>
- Able to provide informed consent.
- Agreeable to concurrent serology. In the community results can take up to 7 days from the initial visit.

### Exclusion criteria

- Previous positive syphilis serology: however, they may be tested for HIV using RPOCT.
- Living with HIV; however, they may be tested for syphilis using RPOCT.
- People less than 14 years of age.

## Patient education for RPOCT use

In addition to any considerations for RPOCT use, site specific policy requirements, and the inclusion and exclusion criteria, provide an overview when offering RPOCT:

- The difference between RPOCT and serological testing.
- How each of the tests is completed, how long the test takes, time for results and interpretation of results.
- The possibility of false positive or false negative results and any need for repeat testing.
- If initial serology is negative, repeat serology in 3-4 weeks for syphilis and 1 and 3 months for HIV.
- The need for confirmatory serology results in conjunction with RPOCT. To reduce the likelihood of serology not being collected, collect serology prior to performing the RPOCT.
- Options for linkage to care and treatment if RPOCT or serology results are positive.

<sup>1</sup> Patients can be treated empirically for syphilis regardless of RPOCT syphilis result:

- Sexual contact to a confirmed case of infectious syphilis in the past 12 months.
- Symptomatic patients (for example: chancre, syphilitic rash).

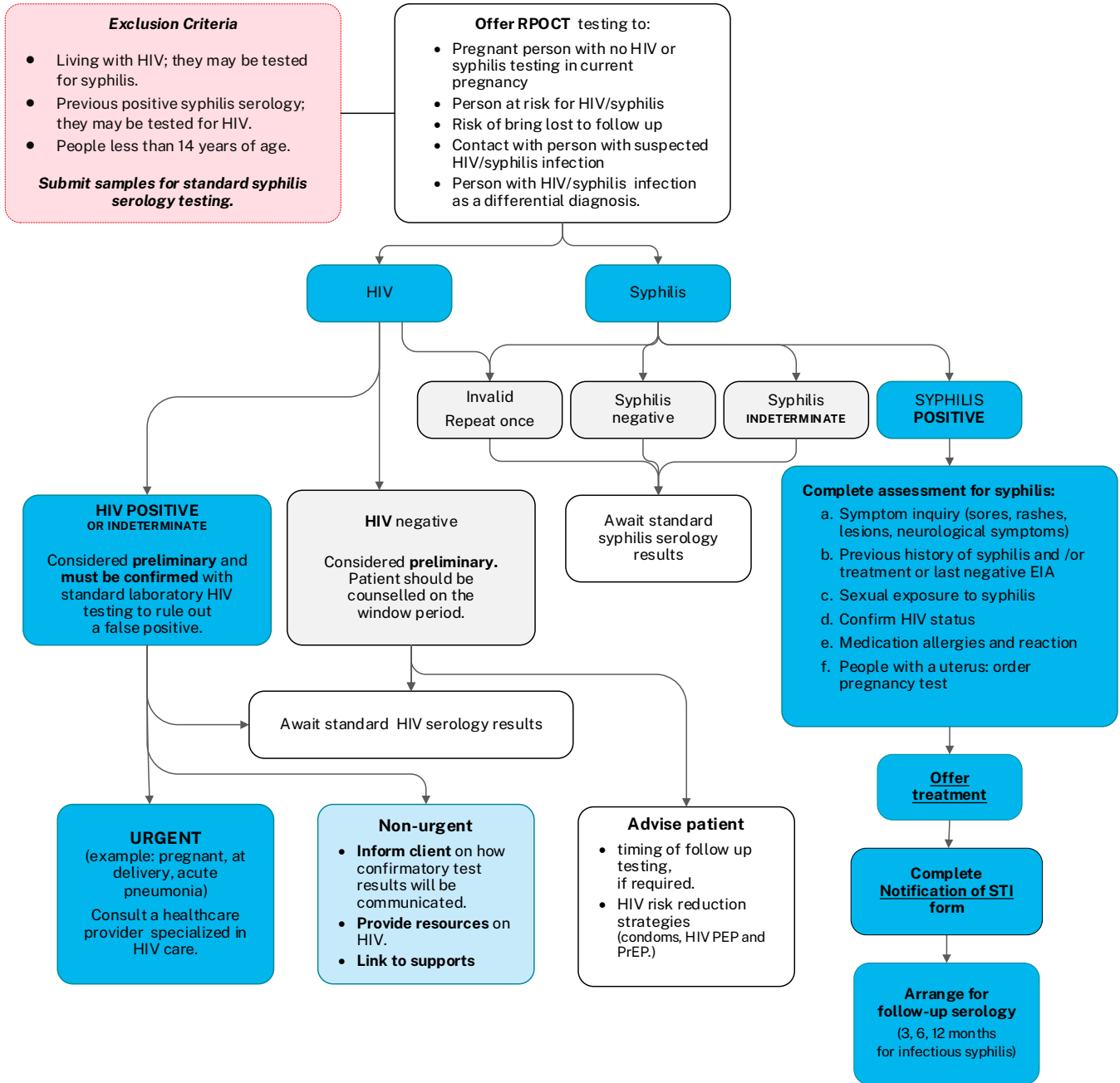
Informed consent is required prior to RPOCT use. The MRP ensures all necessary information has been provided to the patient so they can make an informed decision.

#### Sample consent script

*“The rapid test is designed to tell you if you have detectable antibodies to syphilis and HIV infection. This test is used to determine whether you have either a current infection, or detectable antibodies to past infection such as treated syphilis. A negative result does not always mean that syphilis or HIV infection is absent (**falsely negative**), and likewise, a positive does not always mean that syphilis or HIV infection is present (**falsely positive**). You may be offered treatment based on a positive rapid test. A blood sample is needed to determine your true HIV and syphilis status and will be available in 1-5 days. Do you consent to proceeding with rapid syphilis and HIV testing?”*

# Clinical pathway for RPOCT for syphilis and HIV

Algorithm 1 Clinical Pathway for RPOCT syphilis and HIV



Call STICS at 1-855-945-6700, option 4 to access information on syphilis history and assistance with testing/ treatment of partners. Review the [treatment guidelines](#) for care in pregnancy. Penicillin allergic should be considered for desensitization, contact Infectious Diseases. Refer to “Suspected Syphilis Adult Order Set” in Connect Care for guidance .

## Patient counselling for results

Table 1 Patient counselling based on RPOCT result

Result	Patient counselling	Infection-specific counselling
<ul style="list-style-type: none"> <li>• <b>Negative</b> syphilis or HIV.</li> <li>• <b>Indeterminate</b> syphilis.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure they are aware this is a preliminary result.</li> <li>• Explain how they will obtain confirmatory results.</li> <li>• Inform them of repeat serology in 3-4 weeks for syphilis and 1 and 3 months for HIV.</li> <li>• Counsel them on risk reduction strategies including safer sex and HIV PrEP.</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Positive</b> syphilis.</li> <li>• <b>Positive or Indeterminate</b> HIV.</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure they are aware this is a preliminary result.</li> <li>• Explain how they will obtain confirmatory results.</li> <li>• Provide resources while waiting for confirmatory results.</li> <li>• Counsel them on strategies to reduce transmission.</li> </ul>	<p><b>Syphilis</b></p> <ul style="list-style-type: none"> <li>• Offer treatment.</li> <li>• Inform the patient they will be contacted if confirmatory results are positive.</li> <li>• If confirmatory testing is negative, advise the patient that RPOCT is likely a false positive and to repeat testing in 3-4 weeks.</li> </ul> <p><b>HIV</b></p> <ul style="list-style-type: none"> <li>• Arrange a referral to a specialized HIV provider if confirmatory results are positive.</li> <li>• Inform the patient they will be contacted if confirmatory results are positive.</li> <li>• If confirmatory testing is negative, advise the patient that RPOCT is likely a false positive and to repeat testing in 1 and 3 months.</li> </ul>

## Public health reporting requirements

Healthcare providers will notify STICS of all positive results within 48 hours (two business days).<sup>(14)</sup> Notification for syphilis and HIV can be completed using the [syphilis history form](#) or the [HIV case report form](#). A copy of the syphilis history and HIV case report form can also be found in Connect Care as a flowsheet.

Report all syphilis treatment to STICS using the syphilis history form or the flowsheet in Connect Care. In all cases under 18 years of age, an assessment should be carried out by a healthcare provider to determine if additional reporting is required.

## Contact management

### Syphilis

Contacts to people testing positive on RPOCT may be offered treatment and confirmatory serological results are not required to proceed. Preliminary RPOCT results enable rapid treatment for partners who may be lost to follow-up or who could benefit from timely treatment (for example: pregnant people) and can accelerate the contact notification process.

Contacts do not require RPOCT to be treated. However, RPOCT may be considered if partners decline treatment, as positive RPOCT results may encourage earlier treatment.

### HIV

Collect contact information for patients that may be difficult to locate. Public health will not initiate communication with contacts unless confirmatory HIV result is positive.

#### Support is available.

Call **STICS**, 0815h to 1630h Monday to Friday,  
at 1-855-945-6700, option 4 to speak to a Clinical Development Nurse.

## Appendix A: Resources

Table 2 Resources on RPOCT and STI

Source	Link
Alberta STI treatment guidelines (2018)	<a href="#">Alberta Treatment Guidelines for Sexually Transmitted Infections (STI) in Adolescents and Adults</a>
Alberta outbreak screening guidelines (2023)	<a href="#">Interim STI Outbreak Screening Guidelines.</a>
POCT guidance for community-based healthcare settings (2024)	<a href="#">Point-of-Care Testing (POCT) Guidance</a>
STI notification form	<a href="#">Sexually Transmitted Infections Notification Form</a>

Table 3 Resources on syphilis

Source	Link
<b>Patient resources</b>	
MyHealth Alberta: Syphilis (2022)	<a href="#">Syphilis</a>
Syphilis Outbreak: Information for Albertans	<a href="#">Syphilis Outbreak</a>
<b>Healthcare provider resources</b>	
Alberta Public Health Disease Management Guidelines: Syphilis (2021)	<a href="#">Syphilis</a>
Syphilis history form	<a href="#">Syphilis History Form</a>
Syphilis outbreak: Information for Health Professionals	<a href="#">Syphilis Outbreak</a>

Table 4 Resources on HIV

Source	Link
<b>Patient resources</b>	
CATIE	<a href="#">HIV basics</a>
Government of Canada. Undetectable = Untransmittable (U=U) (2025)	<a href="https://www.canada.ca/en/services/health/campaigns/hiv-aids.html">https://www.canada.ca/en/services/health/campaigns/hiv-aids.html</a>
MyHealth Alberta: HIV (2024)	<a href="#">HIV (Human Immunodeficiency Virus) Infection</a>
MyHealth Alberta: HIV PrEP (2023)	<a href="#">HIV PrEP</a>
<b>Healthcare provider resources</b>	
HIV Pre-exposure prophylaxis (PrEP): Information for Health Professionals	<a href="#">HIV PrEP</a>
Alberta public health disease management guidelines: HIV (2022)	<a href="#">HIV</a>

HIV and AIDS: For health professionals. (2026)	<a href="#">HIV and AIDS</a>
HIV case report	<a href="#">HIV case report</a>
Government of Canada: HIV Screening and Testing Guide (2017)	<a href="#">HIV Screening and Testing Guide.</a>

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