

Leaders in Laboratory Medicine

Laboratory Bulletin

DATE:	22 January 2024	
то:	Physicians & Staff at the Misericordia and Grey Nuns Hospitals; Edmonton and North Zone Medical Officers of Health; Chief Medical Officer of Health, Alberta Health	
FROM:	Alberta Precision Laboratories (APL) – Public Health Laboratory	
RE:	Implementation of Rapid Syphilis & HIV antibody testing at Misericordia and Grey Nuns Hospital, APL Acute Care Laboratories	

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Key Message

- Commencing 15 January 2024, rapid syphilis and HIV antibody testing will be performed at the acute care APL laboratories at the Misericordia and Grey Nuns Hospitals, Edmonton.
- Rapid syphilis testing is intended to assist with the clinical diagnosis to provide treatment while the patient is in the Emergency Department (ED) or an inpatient or at select ambulatory clinics.
- Rapid testing is recommended for persons with unknown syphilis status or who have previously tested negative and have one of the following indications:
 - Pregnant person with unknown status
 - Pregnant with ongoing risk factors and a negative syphilis test in the current pregnancy
 - Person at risk for syphilis/HIV infection and at risk of loss to follow-up
 - Recent contact with a person with suspected and/or HIV infection
 - Person with syphilis and/or HIV in the differential diagnosis
- At the participating hospitals, the syphilis orderable "Syphilis Screen" has been replaced with the "Syphilis Screening Order Panel", which can be found by searching for order sets in the facility list, the ED quick picks and other order sets. The screens will guide the ordering provider to order the appropriate tests (including Rapid Syphilis/HIV) based on the testing indication.
- In the "No Prenatal Care" order panel, "rapid HIV" testing will be replaced by "rapid Syphilis and HIV".
- The positive predictive value (PPV) of this test in persons with a rapid plasmin reagin (RPR) antibody titre of ≥ 1:8 is 99.1% (95% CI 96.9 to 99.8%). These RPR titres are usually found in primary, secondary, and early latent syphilis infections, when the infection is most transmissible.
- This test is not recommended for patients with previous positive syphilis serology and will be automatically cancelled by a Best Practice Advisory (BPA) rule during the ordering process.
- A positive rapid syphilis result is a strong indication to treat.

Background

In July 2021, a provincial syphilis outbreak was declared with the highest rates recorded in the Edmonton & North zones, with >10% of female cases occurring in pregnant persons in 2021. In 2022, over 3,300 new cases were reported. Since 2014, 290 cases of congenital syphilis cases in babies have been recorded, the expected number of congenital syphilis cases in a first world country should be zero (Syphilis Outbreak | Alberta Health Services). Treating infected persons early in their pregnancy can significantly reduce the later adverse manifestations of a congenital syphilis infection.



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- With the addition of the Misericordia and Grey Nuns hospitals, a total of four acute care facilities are
 providing rapid testing in the first phase of a provincial rollout, in response to the high numbers of congenital
 syphilis babies and persons diagnosed with infectious syphilis.
- Many of these infected persons come to EDs for unrelated medical issues and outpatient follow-up of
 positive results from standard syphilis & HIV testing in this population can be difficult due to the 2-to-3-day
 turnaround time to a result. Therefore, the availability of rapid syphilis testing in hospitals managing persons
 with high-risk behaviors for sexually transmitted and bloodborne infections is intended to identify and treat
 infected persons immediately.
- The rapid test offers a one-hour turnaround time to a result after blood collection. A clinical evaluation of this rapid assay showed that a positive result correlated very closely with RPR titres of ≥ 1:8 dilutions, that are documented in primary, secondary and early latent syphilis. The PPV and specificity are 99.1% (95% CI 96.9-99.8%) and 99.8% (95% CI 99.2-99.9) respectively (Singh *et al.*, 2023), therefore making the decision to treat a practical approach while the person is still in the ED or a short stay inpatient. Positive rapid results will be phoned to the ordering healthcare provider to facilitate the evaluation for immediate treatment.
- The rapid test is not recommended for patients with previous positive syphilis serology and will be automatically cancelled by a BPA rule during the ordering process. The rule will place an order for RPR instead. All rapid Syphilis and HIV orders must be accompanied by a Syphilis Screen and HIV 1 and 2 Serology, which will be automatically selected if you order using the "Syphilis Screening Order Panel".
- In non-pregnant adults, including HIV-infected persons, with primary, secondary, or early latent syphilis, a
 single dose of long acting benzathine penicillin G is the preferred treatment. Treatment of pregnant persons
 and children should be in consultation with STI Centralized Services or Pediatrics Infectious Disease
 Specialist (Refer to Alberta STI Treatment Guidelines or the "Suspect Syphilis" order/smart sets in Connect
 Care) as applicable.

Action Required

- The responsible healthcare provider should determine if the patient is at-risk for syphilis and other STI/Bloodborne infections and exposures.
- Order Syphilis and other STI/Bloodborne infection tests (HIV, HCV, HBV, CT/GC) for patients at risk.
- If the rapid Syphilis/HIV test is positive in a person at risk and not previously syphilis positive, then treat the patient. Waiting for confirmatory testing and a RPR result is not necessary.
- Refer to the "Suspect Syphilis Order Set" for guidance on testing and treatment for inpatients (ED and inpatient). Use the "Suspect Syphilis Smart Set" for ambulatory patients.
- Review the Connect Care tip sheet on ordering syphilis for sites going live (see pdf below)

Questions/Concerns

- Dr. Kevin Fonseca, Clinical Virologist, APL Public Health Microbiology (kevin.fonseca@albertaprecisionlabs.ca)
- Dr. Hong Yuan Zhou, Medical Microbiologist, APL Public Health Microbiology (hong.zhou@albertaprecisionlabs.ca)
- Dr. William Stokes, Medical Microbiologist Public Health Microbiology (william.stokes@albertaprecisionlabs.ca)
- Dr. Cari Egan, Lead, Provincial Population & Public Health, Alberta Health Services (cari.egan@albertahealthservices.ca)



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Approved by

- Dr. Graham Tipples, Medical-Scientific Director, Public Health, APL
- Dr. Byron Berenger, Medical Microbiologist and Provincial Microbiology Section Chief, APL
- Dr. Michael Mengel, Medical Director, North Sector, APL

References, Guidelines & Connect Care Tip Sheet:

Singh AE, Ives N, Gratrix J, Vetland C, et al., Sensitivity and specificity of two investigational Point of care tests for Syphilis and HIV (PoSH Study) for the diagnosis and treatment of infectious syphilis in Canada: a cross-sectional study. Clin Microbiol Infect, 2023:29(7):940.e1-940.e7. https://doi.org/10.1016/j.cmi.2023.02.015

Alberta Treatment Guidelines for Sexually Transmitted Infections (STI) in Adolescents and Adults (2018) https://open.alberta.ca/dataset/93a97f17-5210-487d-a9ae-a074c66ad678/resource/bc78159b-9cc4-454e-8dcd-cc85e0fcc435/download/sti-treatment-guidelines-alberta-2018.pdf

Connect Care Tip sheet: Attached

Effective September 1, 2023, APL has become the sole provider of all public lab services in Alberta. As a result, community lab services formally provided by DynaLIFE Medical Labs will become the responsibility of Alberta Precision Labs (APL). This change impacts all zones.



Syphilis Screening Order Panel (Rapid Syphilis/HIV)

Background

Effective on October 10, 2023, rapid testing for syphilis will be made available at the Royal Alexandra Hospital with more sites to follow.

The "Syphilis Screening Order Panel" order set will replace the "Syphilis Screen" order for these sites. This order set will guide the user to order the appropriate test based on the indication for testing.

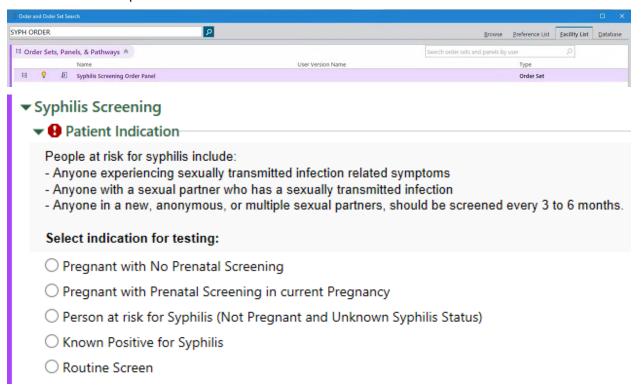
The Rapid Syphilis/HIV test can also be found in the "No Prenatal Care Panel" for these sites. On this panel, it replaces the rapid HIV test.

How to Order

1. Search for the Syphilis Screening Order Panel from the Orders/Order Sets activity tab.



2. Double-click to open the order set.

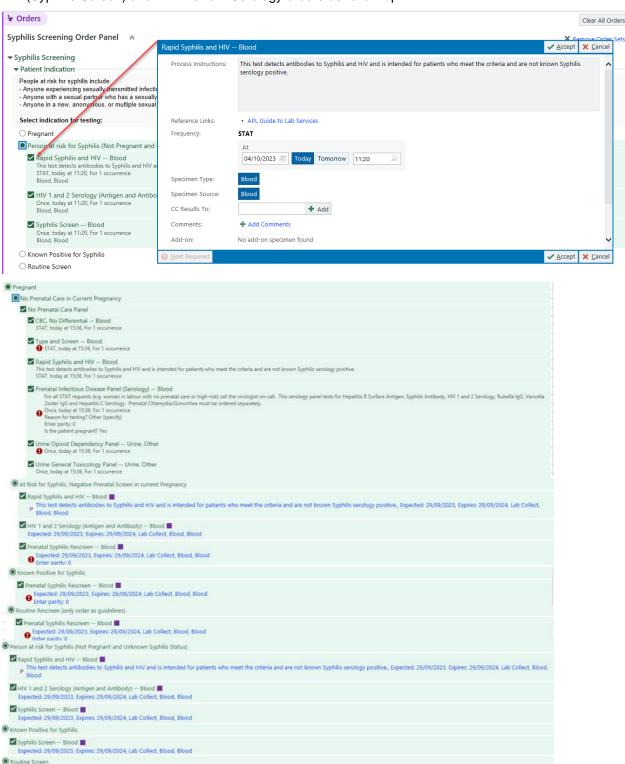


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Connect Care Tip Sheet

3. Select an indication for testing. All required tests will be pre-selected. Users can de-select tests that are not needed. Note that all rapid syphilis/HIV tests require additional Syphilis serology (Syphilis Screen) and HIV 1 and 2 Serology orders as follow up.



Syphilis Screen -- Blood

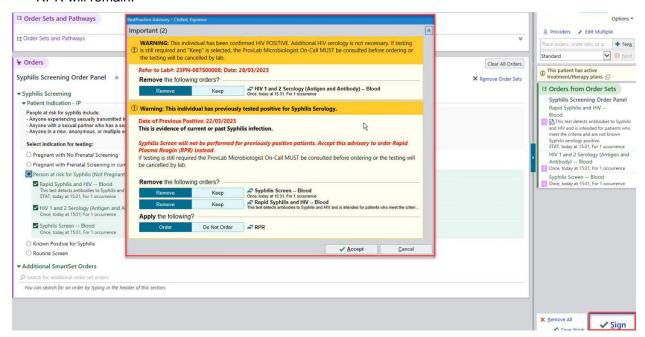
Expected: 29/09/2023, Expires: 29/09/2024, Lab Collect, Blood, Blood



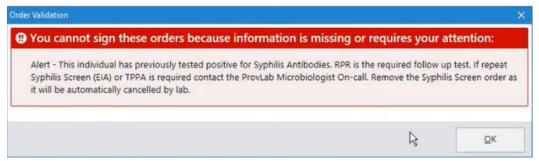
Connect Care Tip Sheet

4. Sign the order.

NOTE: a pop-up will appear if the patient was previously positive for Syphilis or HIV. For syphilis, the system will automatically order Rapid Plasma Reagin (RPR) instead. Once a person is confirmed positive for Syphilis, they need the RPR for follow up on the infection status. Accept these changes and the Syphilis Screen (antibody screen) order will be removed and the RPR will remain.



NOTE: if you choose to keep the current orders, another pop-up will appear to alert you that the patient was previously positive and to advise you on what to do.



5. Enter in a name for the ordering provider to proceed to place the RPR order.

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Connect Care Tip Sheet

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