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Congenital Syphilis - For Healthcare Professionals

Syphilis is a sexually transmitted infection caused by bacteria. Congenital syphilis occurs when a pregnant person transfers this infection to their baby. Transmission can occur during pregnancy when the bacterium crosses the placenta, or during labour and delivery if there is contact with a syphilitic sore. In Canada, rates of congenital syphilis have been increasing since 2018, with Saskatchewan having the highest provincial rate per capita.

Outcomes

The impact of untreated syphilis can be severe for both the mother and baby. Without treatment during pregnancy to prevent syphilis transmission or to treat infection of the fetus in utero, possible adverse outcomes include:

- stillbirth
- premature birth
- low birthweight
- neonatal death (when a baby dies in first 28 days of life)
- miscarriage

Congenital syphilis can also cause severe consequences for the child's health and development, including damage to:

- organs (e.g., enlarged liver and spleen)
- bones and joints (e.g., dental and/or skeletal malformations, abnormal joints)
- vision (e.g., ocular abnormalities and/or blindness)
- hearing (e.g., hearing loss or deafness)
- nervous system (e.g., seizures, cerebral palsy)

Newborn Care

If syphilis is diagnosed and treated adequately during pregnancy, prognosis for the infant is excellent. When prevention of congenital syphilis prior to delivery fails, prompt identification and treatment of newborns can reduce the risk of long-term health problems. As most infants (70%) with congenital syphilis do not have any symptoms at birth, maternal history is used to help

determine the possibility of infection. All infants born to mothers with the following history should be evaluated for congenital syphilis:

- no prenatal care
- untreated syphilis at time of delivery
- treated for syphilis during pregnancy without Bicillin (Long-Acting benzathine penicillin G); use Lentocilin (benzathine benzylpenicillin) if Bicillin is not available. See [Practitioner Order Set](#) for more information.
- treated for syphilis less than 30 days before delivery
- treated for syphilis without follow-up testing to confirm response to treatment or did not demonstrate a response to treatment
- evidence or risk of reinfection post treatment

Additionally, newborns presenting with visible symptoms of early congenital syphilis should receive a full evaluation. It is important that caregivers are aware of these symptoms as the majority of newborns have no symptoms at birth. Symptoms typically appear within the first 3 months of life. These symptoms include:

- rash, most commonly on palms and soles of feet
- peeling of the skin (desquamation)
- excessive nasal discharge (rhinitis/snuffles)
- enlarged lymph nodes (lymphadenopathy)
- yellow-white bands on umbilical cord (necrotizing funisitis)
- yellowing of the skin or eyes (jaundice), typically appears between 2-4 days after birth
- swelling due to excess fluid in tissues and/or organs (hydrops fetalis)

If caregivers see any of the above visible symptoms of early congenital syphilis, they should seek immediate medical attention. Prompt medical attention and treatment is necessary to prevent organ damage and long-term health consequences.

In addition to a physical exam to check for the symptoms listed above, recommended medical evaluations to identify non-visible symptoms include:

- syphilis testing (e.g., antibody testing, nasal swabs and swabs of lesions, placental testing)
- complete blood count test with differential and platelets for low red blood count (anemia) and low platelet count (thrombocytopenia)
- liver function tests and ultrasound for enlargement of liver and/or spleen (hepatosplenomegaly)
- long-bone radiographs for musculoskeletal problems (e.g., bones that appear moth-eaten)
- chest x-ray for pneumonia alba (white pneumonia, firm and pale lungs)
- audiological screening for hearing loss and ocular assessment for ocular abnormalities (can indicate congenital neurosyphilis)
- cerebrospinal fluid analysis with cell count, differential, glucose, protein, and Treponemal testing for confirmation of congenital neurosyphilis

Newborns can have antibodies present, transferred from their mother during pregnancy. This does not always indicate newborn infection. The antibodies of a newborn at delivery is compared to their mother's antibodies to help determine the course of care.

- If a newborn's titre is fourfold higher than their mother's, the risk of congenital syphilis is high. A full evaluation should be completed to confirm infection, and a course of treatment should be administered to the newborn.
- If a newborn's titre is equal to or less than fourfold the mother's titre, but maternal history indicates a high risk of transmission, a full evaluation should be completed. This includes if the mother was treated for syphilis less than 30 days prior to delivery. If infection is confirmed, a course of treatment should be administered to the newborn.

- If a newborn's titre is equal to or less than fourfold their mother's, and maternal history indicates a low risk of transmission, then no newborn treatment may be considered. This includes if the mother was treated for syphilis more than 30 days prior to delivery or prior to pregnancy, with evidence of treatment response and no reinfection.

Follow-Up Care

Infants exposed to syphilis or treated for congenital syphilis should have serology testing repeated at 3, 6, and 18 months. By 6 months of age, infant titre should show a fourfold or greater decrease; if not, infants should be reevaluated.

For infants not treated immediately after delivery (e.g., those deemed less likely to be infected based on their serological testing, evaluation, and maternal history), serology testing should be conducted every 2-3 months until at least 6 months of age to ensure no transmission of syphilis occurred before delivery.

Late Congenital Syphilis

Children with untreated early congenital syphilis will develop late congenital syphilis (i.e., infection at 2 years of age or older), with the most common complications referred to as Hutchinson's Triad:

- dental malformations (notched incisors and/or molars with multiple cusps instead of four)
- interstitial keratitis (inflammation of the cornea, can cause blindness)
- sensorineural hearing loss

While children can be referred to a pediatric dental specialist for dental restoration, the vision and hearing loss caused by late congenital syphilis is typically irreversible. Use of corticosteroid drops may help minimize scarring of the cornea, and use of hearing aids and/or cochlear implants can help manage hearing loss.

Select References

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Fanella, S., Bitnun, A., Barton, M., & Sauve, L. (2024). *Diagnosis and management of congenital syphilis: Avoiding missed opportunities*. Canadian Paediatric Society.

Sankaran, D., Partridge, E., & Lakshminrusimha, S. (2023). Congenital syphilis: An illustrative review. *Children*, 10, 5-15.

Saskatchewan Guidelines and Orders

[Syphilis Management and Care in Acute Care - Mother and Newborn](#)

[Infants Born to Individuals with Syphilis - Initial Management Orders](#)

[Communicable Disease Control Manual - Syphilis](#)

[Communicable Disease Control Manual - Congenital Syphilis](#)

For more information and a complete list of references, please refer to: *Congenital Syphilis Literature Review* - Saskatchewan Prevention Institute.
<https://skprevention.ca/resource-catalogue/congenital-syphilis-literature-review/>.