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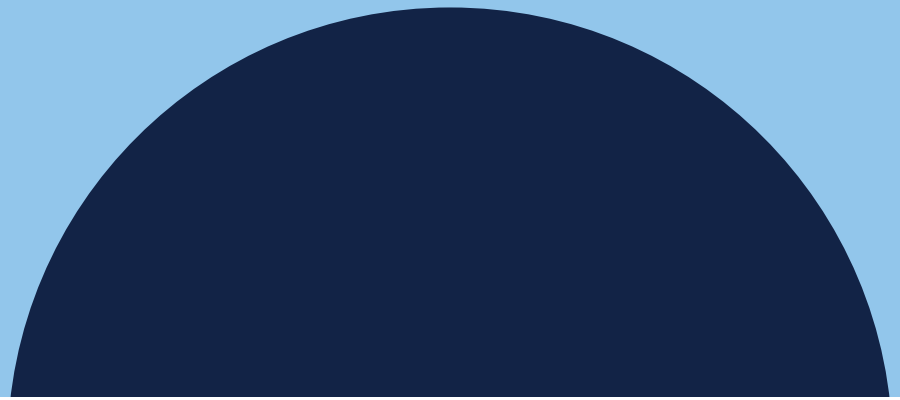
Developing a sustainable HIV,
viral hepatitis & sexual health workforce

The Syphilis outbreak in rural and remote WA

Rural Clinicians Workshop



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Developing a sustainable HIV, viral hepatitis & sexual health workforce

Acknowledgement of country

Artwork titled
“Wiyunggir”(Cleverman),
created by Bianca Monaghan

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Presenter

BLO

Dr Simon Slota-Kan is a public health physician and GP who is currently working for the Pilbara Public Health Unit in WA Country Health Service. His previous work was at the Puntukurnu Aboriginal Medical Service as Senior Medical Officer in Newman. He has endorsement for CPOP (Opioid pharmacotherapy) as well as endorsement as an S100 prescriber for Hepatitis B and HIV.

His experience includes NT government primary care in remote communities focused on chronic disease, medical education with the RACGP and RACP, as well as multiple roles in the Victorian Department of Health as Medical Advisor Public Health in Environmental Health, Communicable Disease Control, Food Safety and Medicinal Cannabis.

Acknowledgements to WA Country Health Service South West Public Health Unit: CN-Manager Amanda Whittle & Dr Tarun Weeramanthri
Pilbara Public Health Unit: CN-Specialist Phillippa Jones

Slide 3

BL0 Add photo of Simon
Bianca Leber, 2024-03-05T07:04:05.879

sl0 0 hi Bianca was just looking though.
slotakan@gmail.com, 2024-03-08T00:14:07.384

sl0 1 Can I also acknowledge the WACHS South West Public Health Unit CN -Manager Amanda Whittle, Pilbara Public Health Unit CN Specialist Phillippa Jones, and Dr Tarun Weeramanthri who assisted with this presentation
slotakan@gmail.com, 2024-03-08T00:19:11.750

BL0 2 Of course!
Bianca Leber, 2024-03-10T23:41:33.509

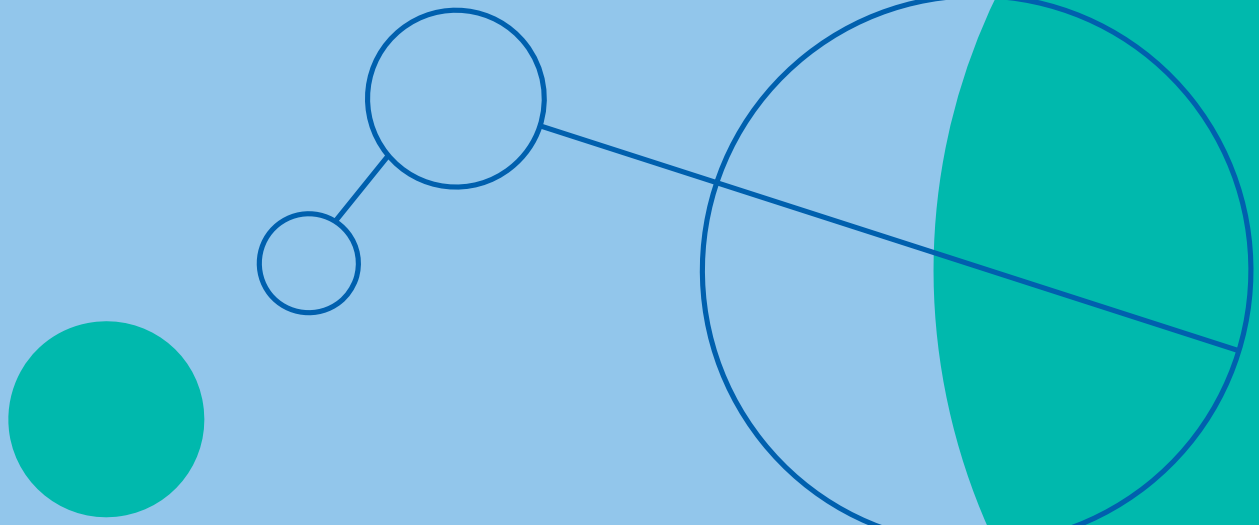
Learning outcomes

1. Outline the WA Syphilis Outbreak, including opportunities towards effective management in regional & remote WA.
2. Examine interactive case studies following the format of ASHM's Syphilis Decision-Making tool.
3. Recommend strategies to improve syphilis testing and treatment in regional & remote WA.

Session overview

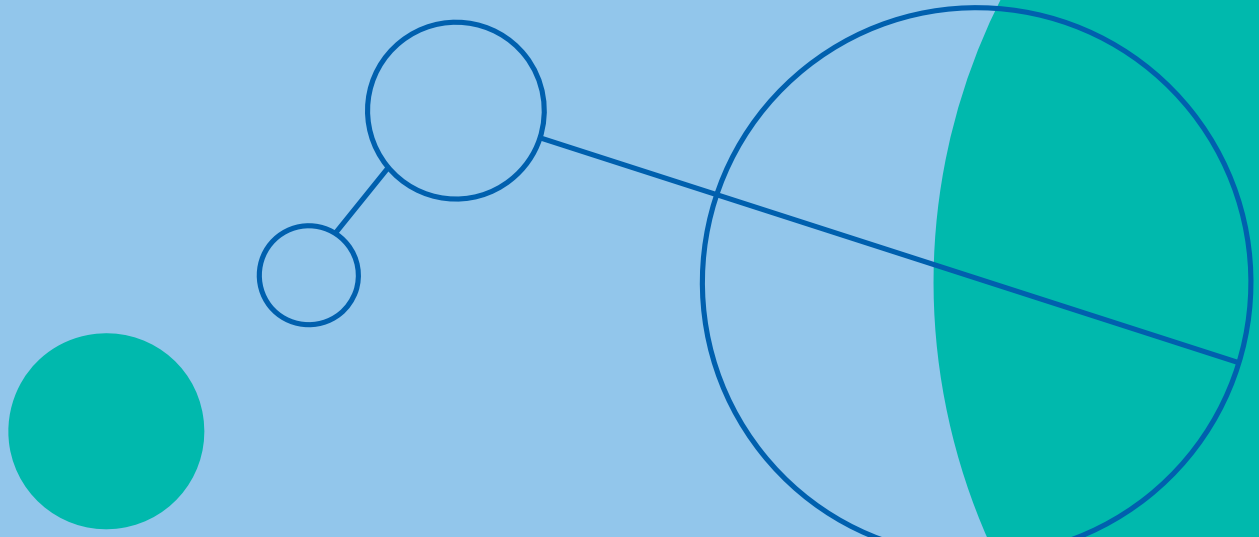
1. A message from the Chief Medical Officer Prof. Paul Kelly
2. Epidemiology
3. Case study 1
4. Case study 2
5. Summary
6. Resources
7. Further training

A message from the Chief Medical Officer Prof. Paul Kelly



Prof. Paul Kelly - Syphilis testing and prevention

Epidemiology

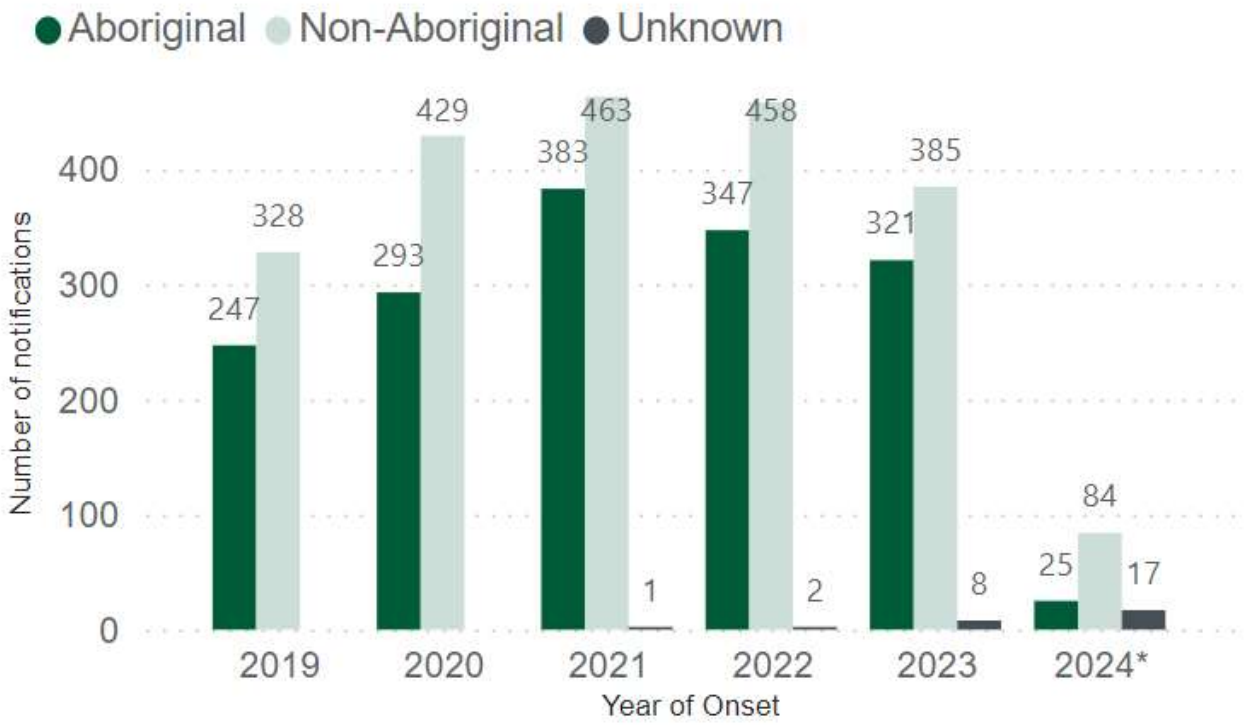


Syphilis (infectious) notification by region, WA, 2019-2024*

Region	2019	2020	2021	2022	2023	2024*
Goldfields	31	27	30	19	40	5
Great Southern	7	6	6	7	7	1
Kimberley	89	100	147	118	68	9
Metro Perth	331	462	479	514	431	98
Midwest	9	13	12	28	23	1
Pilbara	88	80	147	95	107	5
Southwest	3	18	16	12	17	2
Wheatbelt	7	5	7	6	8	1

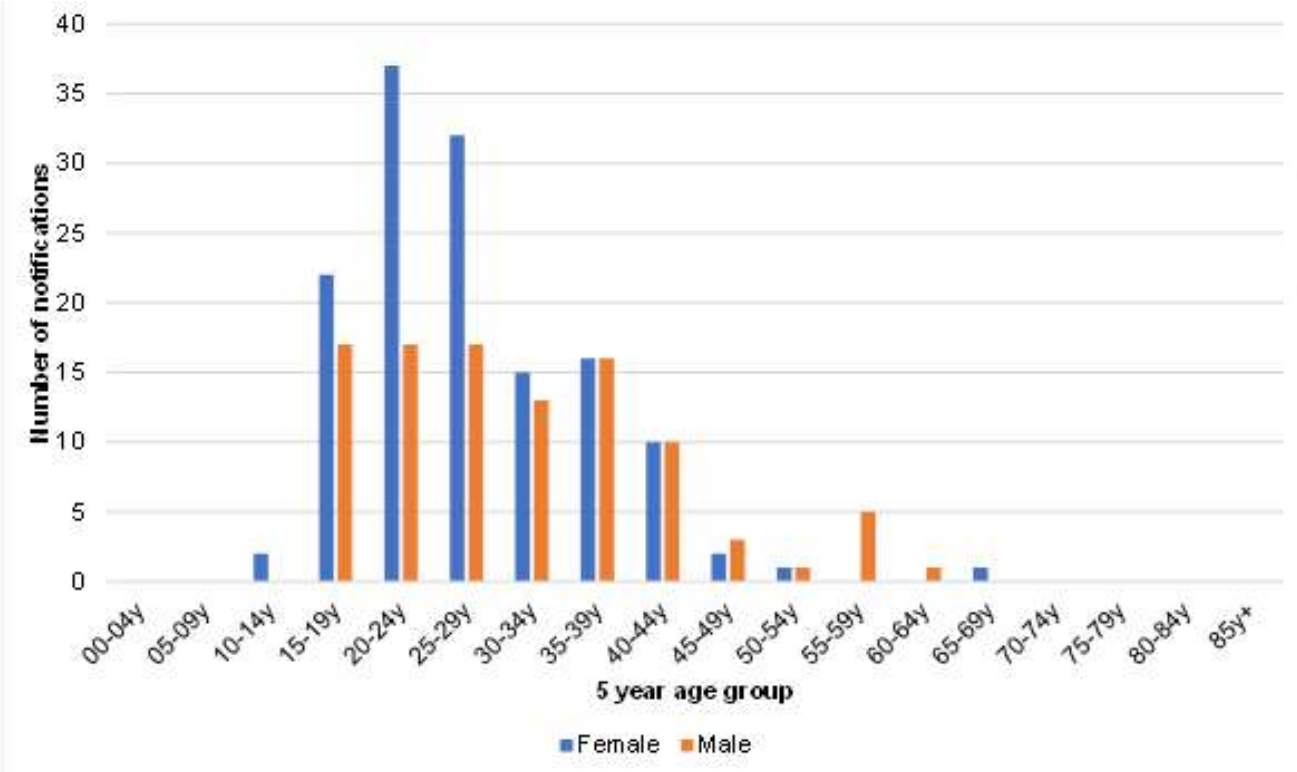
Source: Notifiable infectious disease dashboard. Available at: https://www.health.wa.gov.au/articles/n_r/notifiable-infectious-disease-dashboard

Syphilis (infectious) notifications by Aboriginality, WA, 2019-2024*



Source: Notifiable infectious disease dashboard. Available at: https://www.health.wa.gov.au/articles/n_r/notifiable-infectious-disease-dashboard

Rural and Remote – Syphilis (infectious) notifications by 5 year age group and sex, WA, 2023

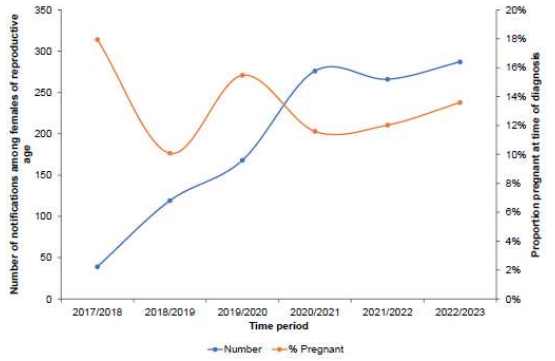


Source: Government of Western Australia, Department of Health, CDCD, Kellie Mitchell

Syphilis: What about the regional and remote antenates?

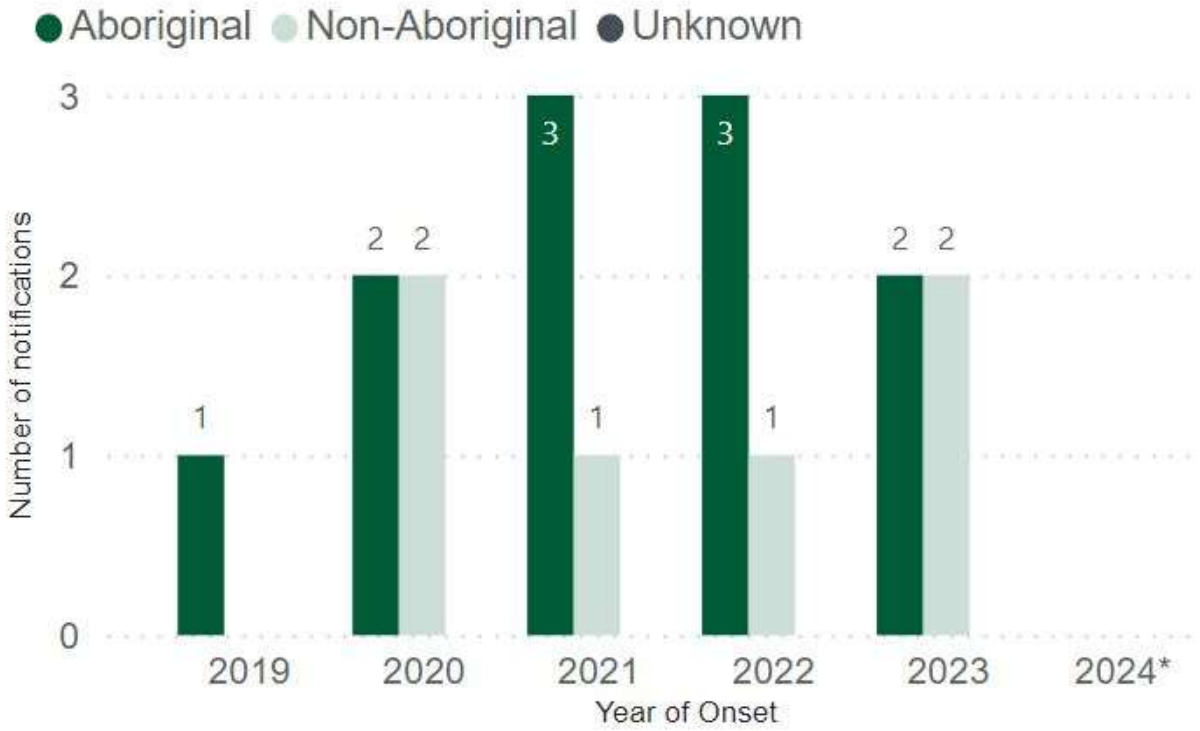
- Increasing number of higher-risk child bearing woman with lower health literacy on syphilis, sexual health and childbirth
- Fragile referral systems with challenges to consistent antenatal care
- Inconsistent antenatal syphilis risk management in antenatal care and no higher risk neonatal planning undertaken at 36 weeks
- Avoidable cases of congenital syphilis and foetal-death in utero

Number and proportion of infectious syphilis notifications among females of reproductive age in WA by time period



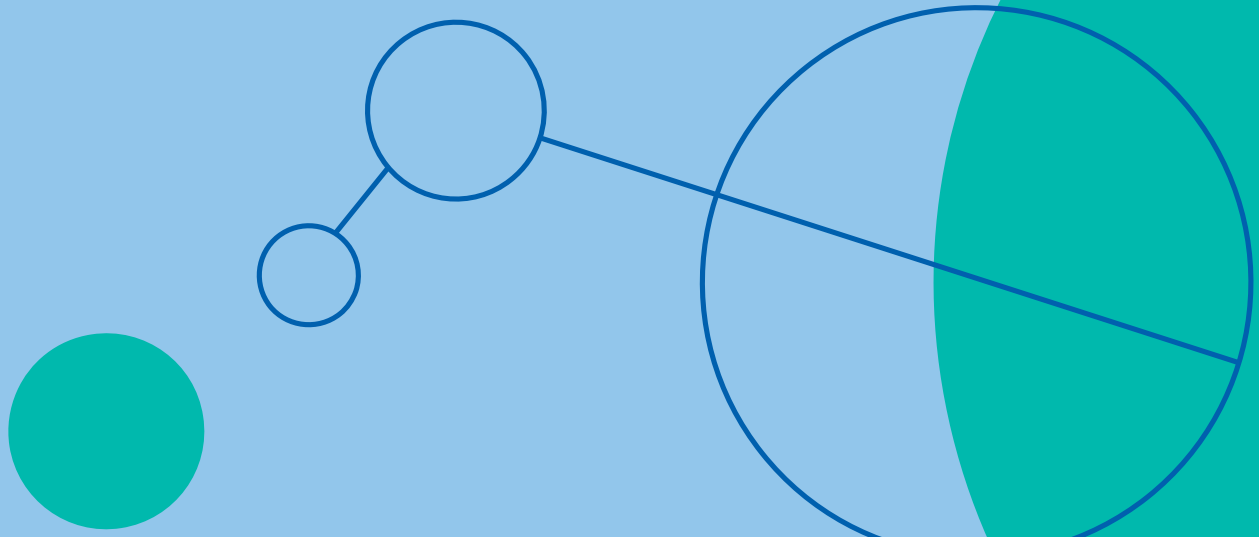
	2017/2018	2022/2023	Change
Number	49	290	492% ↑
Pregnant	18%	15%	3%-points ↓

State wide-Syphilis(congenital) notifications by Aboriginality, WA 2019-2024*



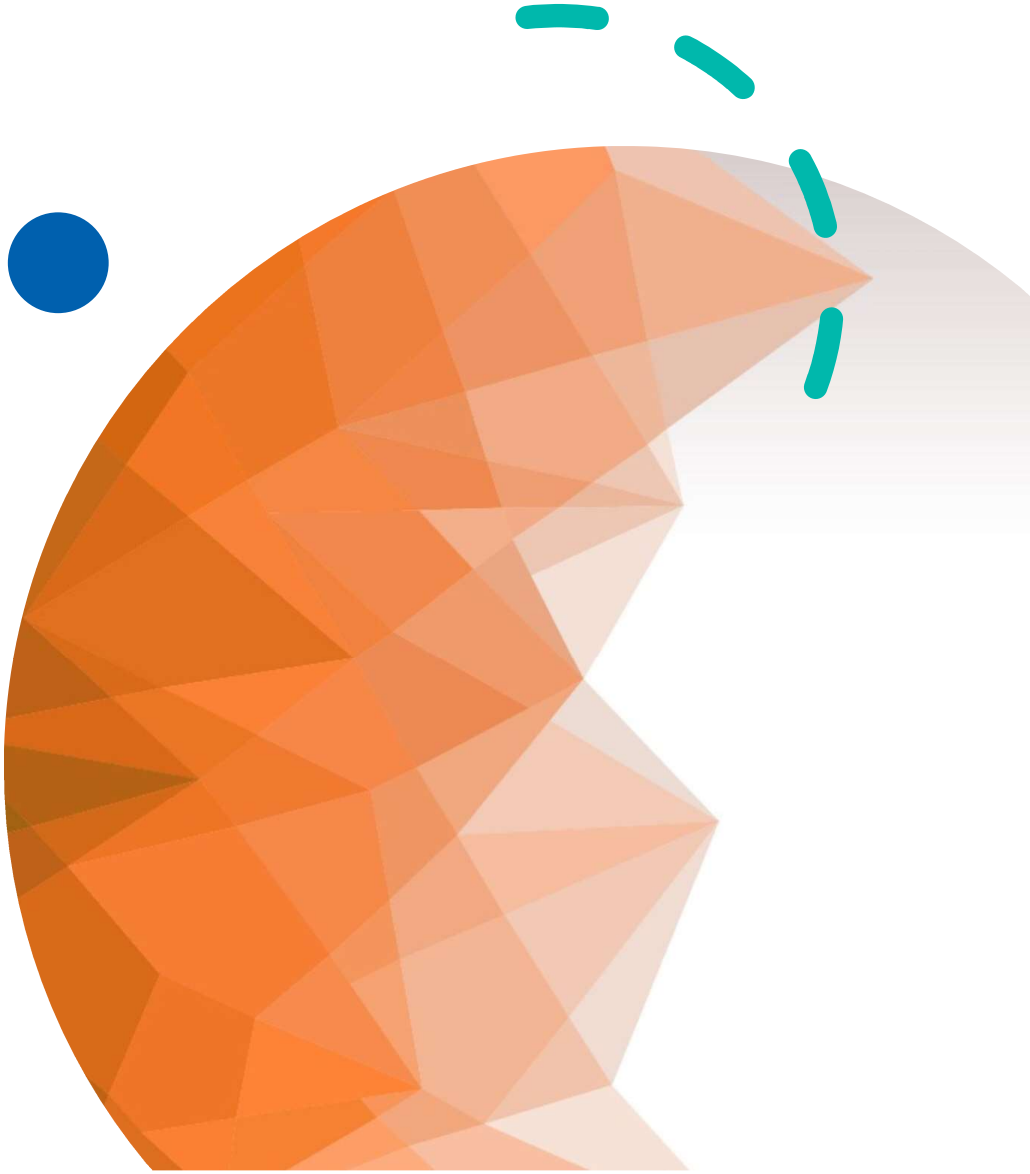
Source: Notifiable infectious disease dashboard. Available at: https://www.health.wa.gov.au/articles/n_r/notifiable-infectious-disease-dashboard

Case study 1



Case study 1: History

- 36-year-old woman from the Solomon Islands has come to work in Port Hedland on a work visa.
- First visit to GP
- At 11 /40 gestion presents with PV bleeding. positive home pregnancy test. Calculated gestation from LNMP.
- Reports no significant past medical history or family history
- No allergies
- She receives pathology request form for antenatal booking bloods and antenatal U/S request.



What is the recommended syphilis screening schedule in pregnant and post-partum women in WA?

What are the additional antenatal tests for syphilis in the outbreak regions of the Kimberley, Pilbara and Goldfields – why is this so?

Recommended Antenatal Syphilis Serology Testing

All pregnant women living in WA Syphilis serology at:

- **Booking Visit** (+BBV/STI), **28 weeks**, **36 weeks** gestation

If women living in regions affected by the ongoing outbreak in Aboriginal communities, i.e. Kimberley, Pilbara and Goldfields*:

- **Booking Visit** (+BBV/STI), **28 weeks**, **36 weeks** (+SOLVS,+/-anal or throat swab) gestation, **Delivery** and **6 weeks post partum**.

Maternal syphilis screening table

Patient characteristics	Testing schedule
Standard testing in Western Australia for every pregnancy	Test syphilis serology three times: 1. Antenatal booking visit 2. 28 weeks 3. 36 weeks or at time of any preterm birth Other STI / BBV screening recommendations. See WNHS Antenatal Care Schedule and STI guidelines in Silverbook- STI Screening Recommendations in Pregnant and Post-partum Women (external website)
Resident in a regional outbreak area with the highest rates of transmission • Kimberley • Pilbara • Goldfields (See WA map Appendix 1)	Test syphilis serology five times: 1. Antenatal booking visit 2. 28 weeks 3. 36 week 4. Birth and 5. 6 weeks post-partum Other STI/ BBV screening recommendations: See WNHS Antenatal Care Schedule and STI guidelines in Silverbook- STI Screening Recommendations in Pregnant and Post-partum Women (external website)
Minimal or no antenatal care or no evidence of syphilis testing in this pregnancy as per schedule	• Syphilis maternal serology at presentation to care • Full STI screen- Chlamydia / Gonorrhoea PCR, Hepatitis B, Hepatitis C, HIV serology • Tests should be requested URGENTLY. Liaising with on call microbiologist is recommended on weekends / after hours. • See also Silverbook- STI Screening Recommendations in Pregnant and Post-partum Women (external website)
Stillbirth > 20 weeks	• Syphilis serology recommended
Tested positive to syphilis	• Full STI screen- read section Maternal follow-up • See also Silverbook- STI Screening Recommendations in Pregnant and Post-partum Women (external website)

Source: STI screening recommendations in pregnant and post-partum women. Available at: https://www.health.wa.gov.au/Silver-book/STI-screening-recommendations-in-pregnant-and-post-partum-women

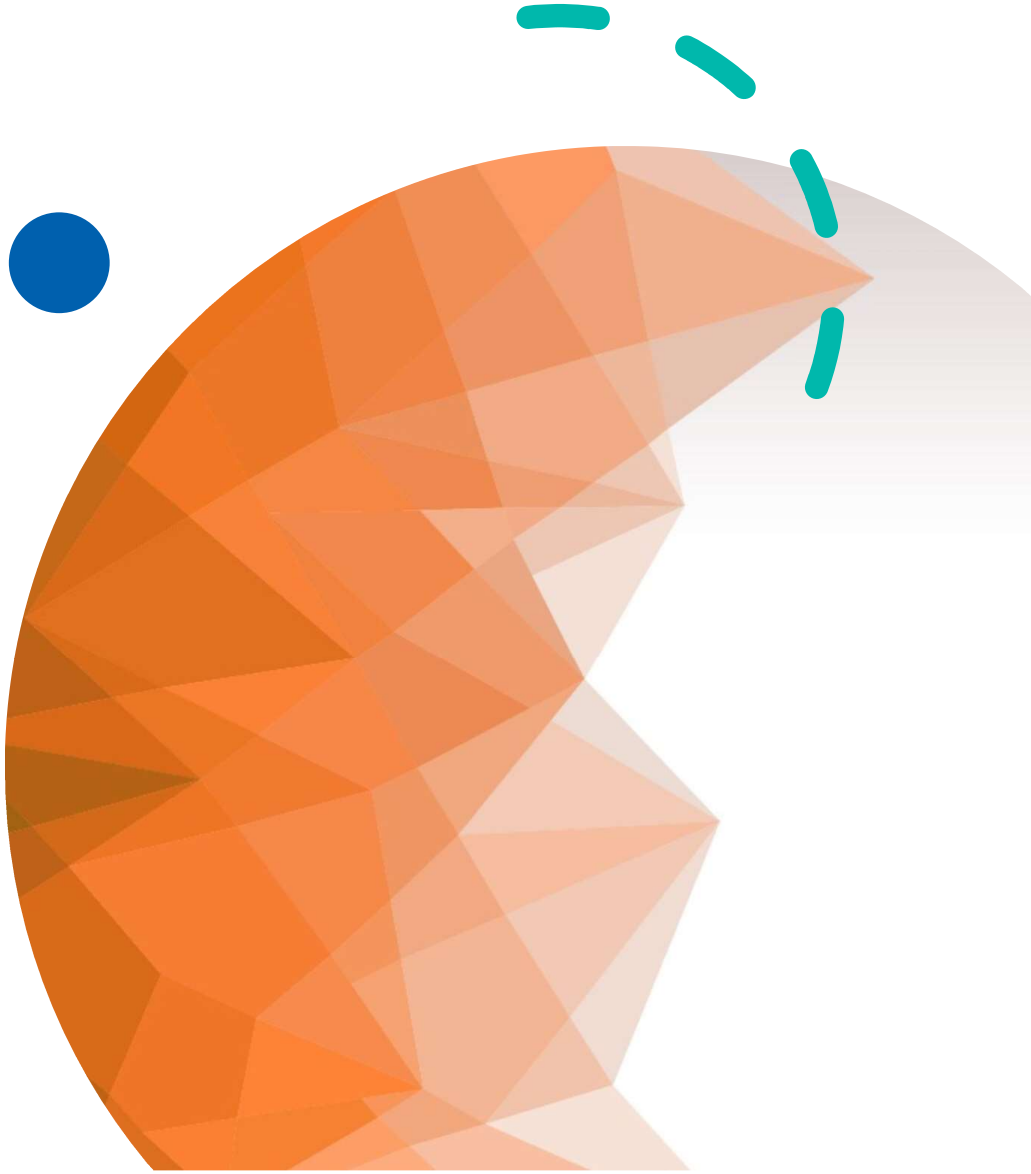
Case study 1: History

After this review no serology was undertaken by the antenate or results to the GP clinic despite recall of the patient over 4 months.

Why might the patient not have undertaken any antenatal testing or returned for GP antenatal care?

Case study 1: History

- Represents at 32/40 weeks to GP practice and antenatal booking bloods are reordered unfortunately due to transcription error at the pathology lab, the syphilis tests are not undertaken.
- At 34/40 weeks seen was seen at another GP practice (a maternity GP practice with endorsed midwife) – no serology results were available or reviewed. Referral was made to a High-Risk clinic at the District Hospital due to baby being large for dates.
- At 36/40 High risk clinic midwife notes that syphilis testing has not been undertaken in this pregnancy and at 37/40 results became available.



Case study 1 – Interpreting results

Syphilis Serology at 37/40 was: Total Ab detected, TPPA 3+, RPR negative

Scan the QR code and review *ASHM's Decision making in syphilis tool*. What further information do you need to stage the disease?

4 Disease staging and symptoms

	Disease Stage (often not distinct)	Symptoms and signs (most patients do not have all or most of these)
Infectious	Primary syphilis	Genital, anal or oral ulcer. Inguinal lymph enlarged.
	Secondary syphilis	Fever, malaise, headache, lymphadenopathy, rash, alopecia, oral, anal or genital lesions
	Neurosyphilis	May arise in context of secondary or less commonly tertiary syphilis. **Neurological symptoms or signs:** visual changes, tinnitus, deafness, cranial nerve palsies, severe headache or meningitis.
	Early Latent (<2 years) syphilis	Positive syphilis serology no clinical symptoms or signs no evidence of adequate past treatment. Negative test or a 4-fold increase in RPR within past 2 years.
Non-infectious	Late latent (>2 years) syphilis	Positive syphilis serology no clinical symptoms or signs no evidence of adequate past treatment. No negative test within 2 years.
	Tertiary syphilis	Destructive skin, cardiovascular or neurological disease.
Congenital syphilis		Severe multi-organ disease with very high mortality and morbidity in both in-utero and in neonatal periods.

These stages are often not distinct, most patients do not develop all or most of these symptoms and signs.

Case study 1: Treatment

The antenate reports no recall of genital, anal or oral ulcers, lymphadenopathy, rash or hair loss. has not had any pathology test for syphilis in the last 2 years.

What is the treatment that is recommended on the decision-making tool? What about the partner and why is this important?

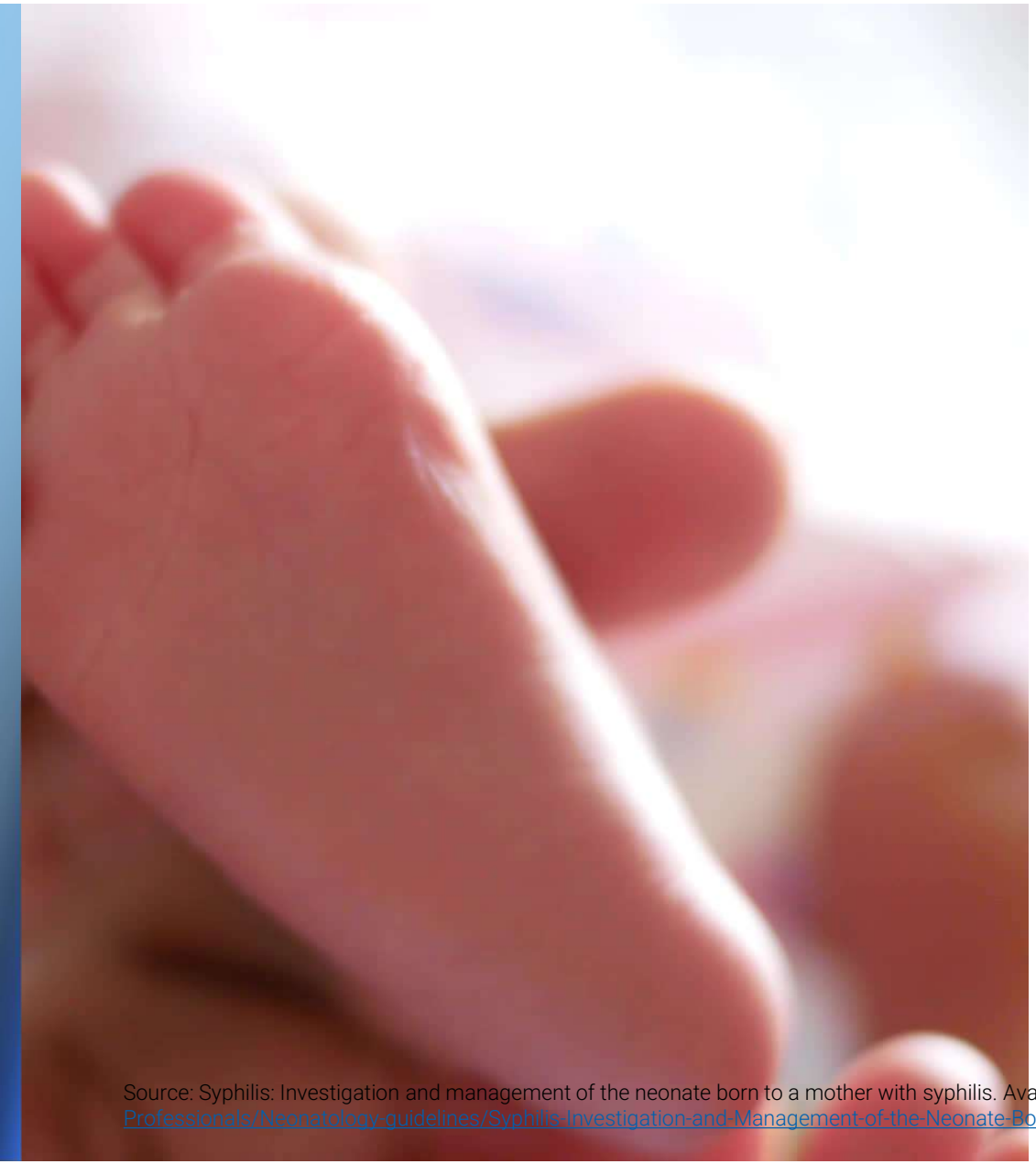
Case study 1: Testing at delivery

Microbiology was consulted and recommended 3 treatments with 2.4 MU of Long Acting Bicillin.

First dose was received at 37/40 weeks (received 2 further doses).

At 39/40 Baby was delivered at the district hospital.

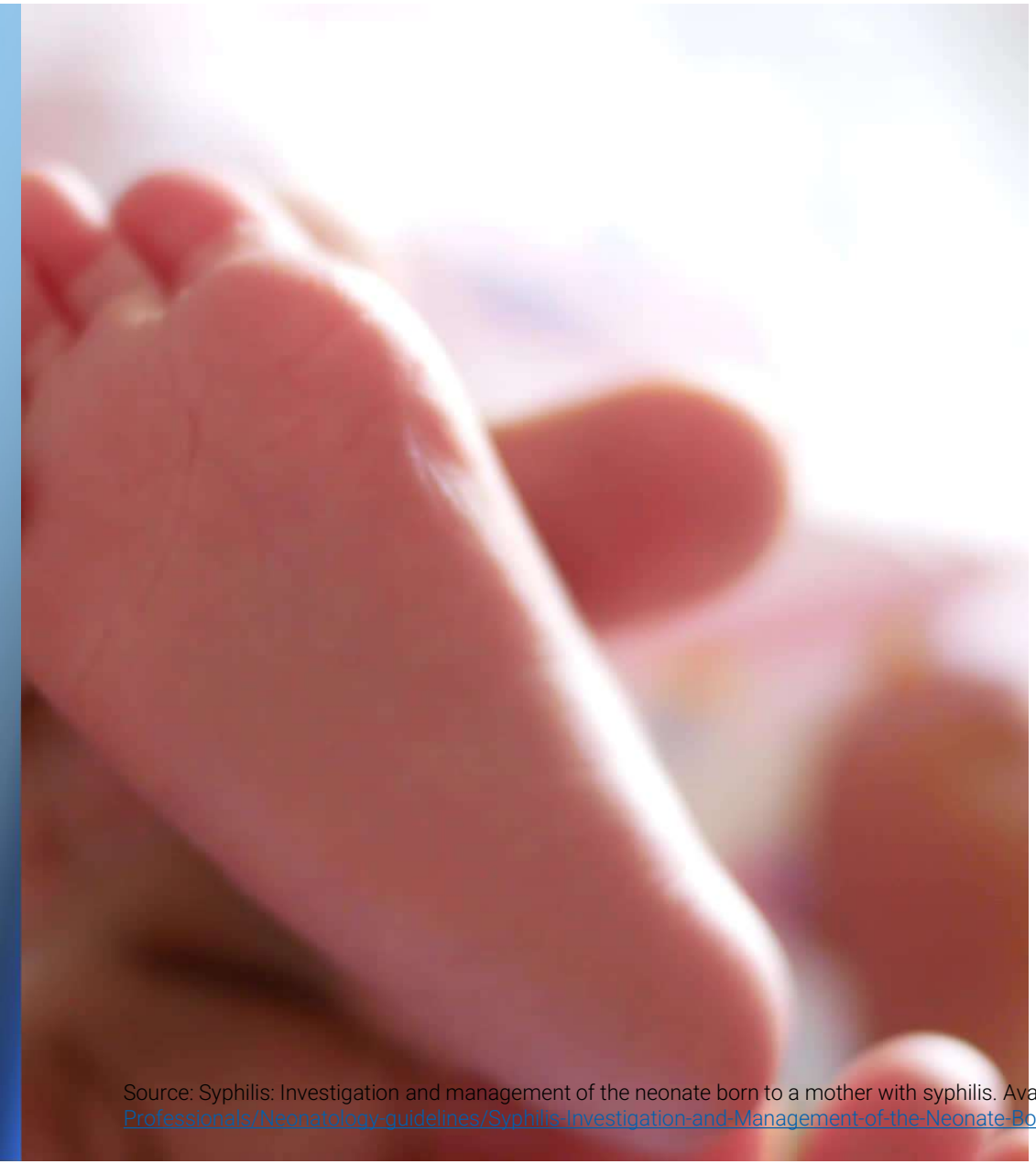
What is the recommend testing for mother and baby at delivery?



Low risk neonate: maternal infection adequately treated during current pregnancy

- Physical examination of baby
- Paired maternal and neonatal serum testing
- Neonatal testing in 3/12 and 18/12.

Source: Syphilis: Investigation and management of the neonate born to a mother with syphilis. Available at: https://www.cahs.health.wa.gov.au/-/media/HSPs/CAHS/Documents/Health-Professionals/Neonatology-guidelines/Syphilis-Investigation-and-Management-of-the-Neonate-Born-to-a-Mother-with-Syphilis.pdf?thn=0&hash=2C631770FA363D2B1F0F39D3C5F33910



High risk neonate: concerns regarding adequate treatment, treatment < 30 days before delivery

- Physical examination of baby Paired maternal and neonatal serum (RPR run in parallel)
- Placenta, histology and T. pallidum PCR
- Skin lesions, nasal secretion T.pallidum PCR
- CSF examination if required : microscopy, protein (ref range elevated protein < 1 month of age => 150mg/L, preterm baby.170mg/L), syphilis PCR and syphilis serology (VDRL),
- X-rays of long bones if required

Source: Syphilis: Investigation and management of the neonate born to a mother with syphilis. Available at: https://www.cahs.health.wa.gov.au/-/media/HSPs/CAHS/Documents/Health-Professionals/Neonatology-guidelines/Syphilis-Investigation-and-Management-of-the-Neonate-Born-to-a-Mother-with-Syphilis.pdf?thn=0&hash=2C631770FA363D2B1F0F39D3C5F33910

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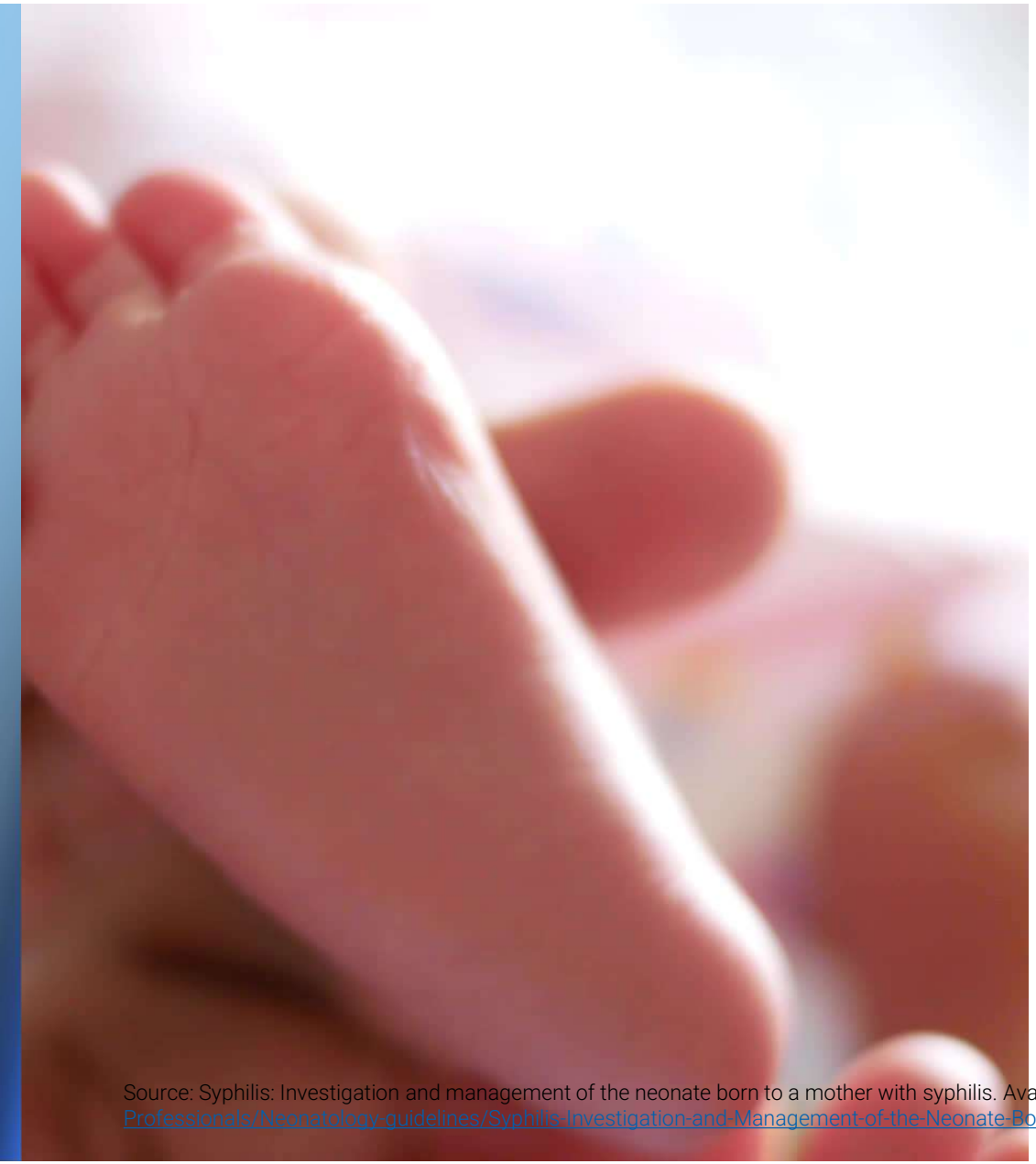
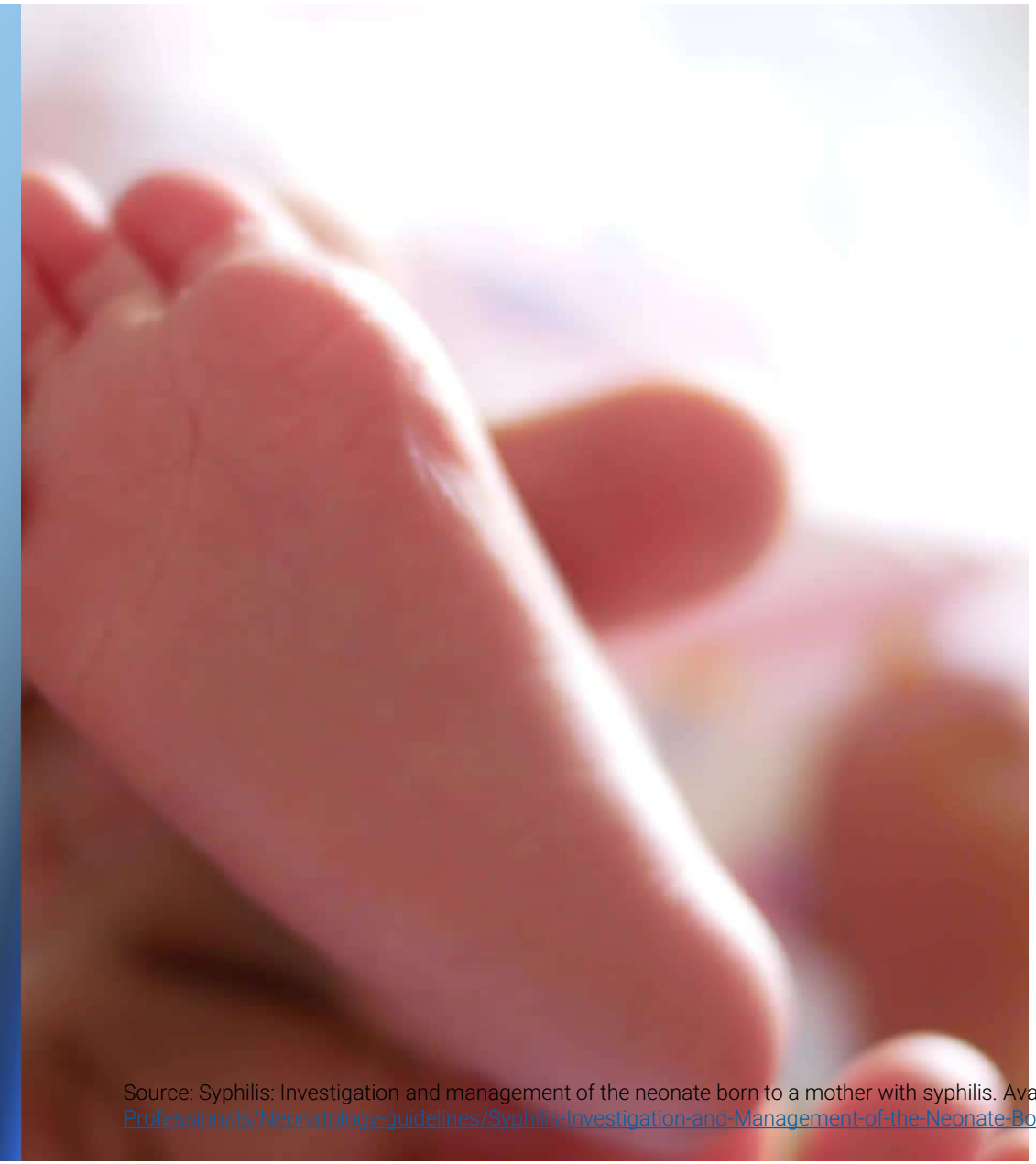
What are the considerations for treatment of mother and baby at delivery?



Low risk neonate: maternal infection adequately treated during current pregnancy

- Prophylactic IMI Benzathine Benzylpenicillin if ≥ 3kg. This is a precautionary dose as follow up review may be difficult.
- For neonates <3kg commence IV Benzylpenicillin and contact the paediatric ID team or KEMH/PCH microbiology team for a treatment plan.
- Probable or proven congenital syphilis cases require the 10 day IV Benzylpenicillin regimen as per high risk neonates.

Source: Syphilis: Investigation and management of the neonate born to a mother with syphilis. Available at: https://www.cahs.health.wa.gov.au/-/media/HSPs/CAHS/Documents/Health-Professionals/Neonatology-guidelines/Syphilis-Investigation-and-Management-of-the-Neonate-Born-to-a-Mother-with-Syphilis.pdf?thn=0&hash=2C631770FA363D2B1F0F39D3C5F33910



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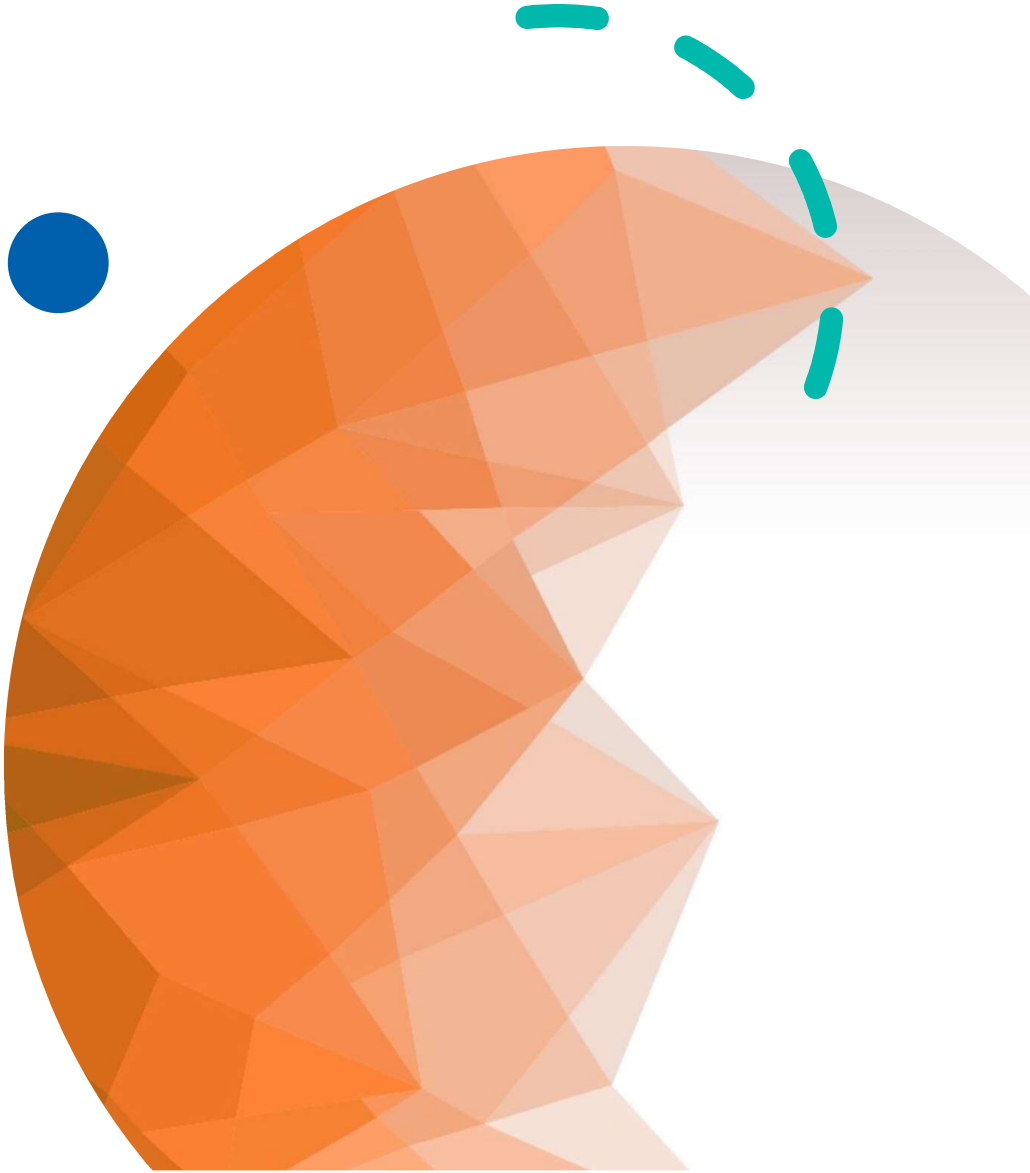
Source: Syphilis: Investigation and management of the neonate born to a mother with syphilis. Available at: https://www.cahs.health.wa.gov.au/-/media/HSPs/CAHS/Documents/Health-Professionals/Neonatology-guidelines/Syphilis-Investigation-and-Management-of-the-Neonate-Born-to-a-Mother-with-Syphilis.pdf?thn=0&hash=2C631770FA363D2B1F0F39D3C5F33910

Case study 1: Results

Investigations in this case:

- Cervical membrane swab syphilis PCR not detected.
- Serum from mum – Ab positive, RPR neg.
- T. pallidum IgM (EIA) not detected
- Nasal aspirate PCR negative
- Placenta Syphilis PCR not detected, ‘paraffin scrolls’ placental swab also PCR not detected.
- Membrane swab PCR not detected



Case study 1: Neonatal management plan

Treatment:

- Baby commenced on IV Benzylpenicillin 50mgs/kg for 5 day

What is a neonatal management plan?

Government of **Western Australia**
Child and Adolescent Health Service

Perth **Children's** Hospital

Neonatal Management Plan: Paediatric Infectious Diseases Summary

Date completed: 05/04/2023

Clinical information at 36 weeks' gestation, as provided by NMHS Public Health, has been reviewed. Based on this information, this case is classified as **low risk**, owing to diagnosis of infectious syphilis during the current pregnancy, with appropriate treatment administered and adequate post-treatment serological response observed. No additional concerning risk factors for re-infection have been identified. My recommendations for the neonate, as per CAHS Congenital Syphilis Guideline:

- Physical examination at birth, specifically looking for clinical features of congenital syphilis.

- Investigations: Paired maternal and neonatal serum (do not use cord blood).

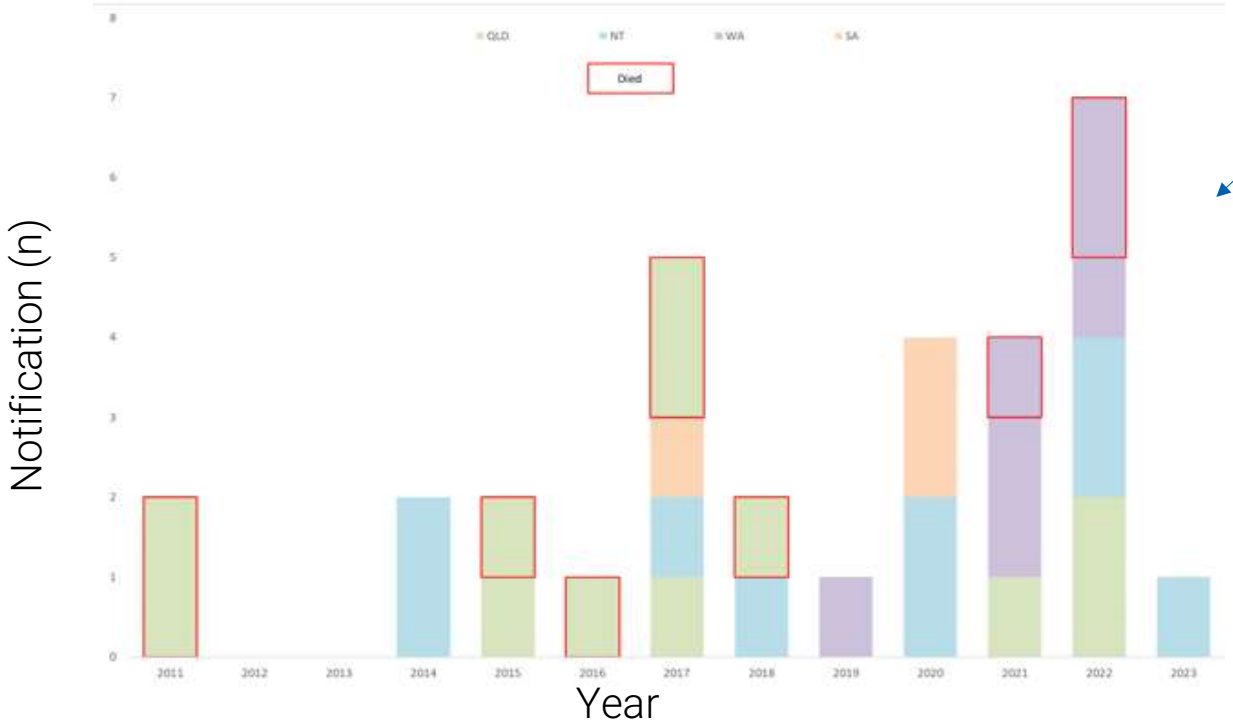
- Treatment: Prophylactic IM Benzathine penicillin 200,000U (0.4ml) IM as per Perth Children's Hospital Children's Antimicrobial Programme monograph if ≥ 3kg. For neonates <3kg commence IV benzylpenicillin and contact PCH Infectious Diseases.

- Contact PCH Infectious Diseases through hospital switch board at birth for additional advice and to determine whether risk stratification has changed.

- Please notify MCDC (Public Health) of the baby's birth via the Syphilis in Pregnancy email address, NMMCDCSIP@health.wa.gov.au, and include relevant clinical and microbiological findings.

- Please refer the neonate to the PCH Infectious Diseases Outpatient Clinic for routine follow-up, which will include developmental and serological monitoring.

Notifications (n) of outbreak associated congenital syphilis cases and reported deaths, by jurisdiction, and year, 2016 – 2023 (to 31 March)



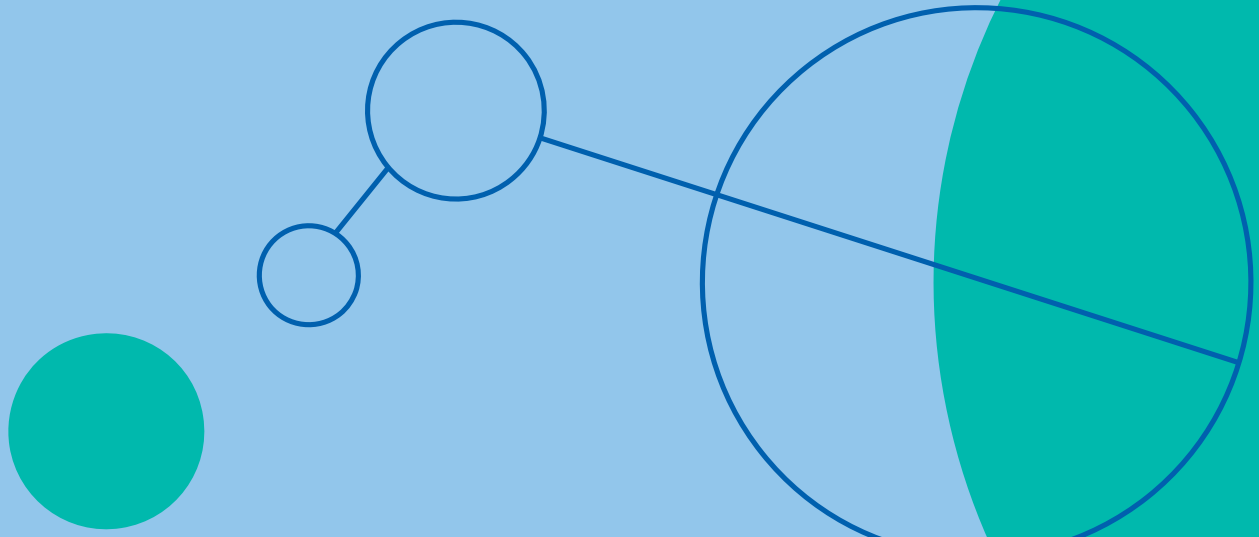
WA (purple)

Source: NATIONAL SYPHILIS SURVEILLANCE QUARTERLY REPORT QUARTER 3: 1 JULY – 30 SEPTEMBER 2023. Available at: https://www.health.gov.au/sites/default/files/2023-12/national-syphilis-surveillance-quarterly-report-july-to-september-2023.pdf

Take home messages

- Offer syphilis testing to all pregnant women as per the WA guidelines
- Offer pregnant women antenatal bloods at any visit, including unplanned or Emergency Department visits, as it may be the only test vulnerable women get during pregnancy
- Most cases of congenital syphilis are acquired late in pregnancy, so testing through the pregnancy and treating contacts are essential

Case study 2



Case 2: Penile lesion

Aboriginal Male present with penile lesion

Reports previous unprotected oral sex (and previous IVDU) at local pub.

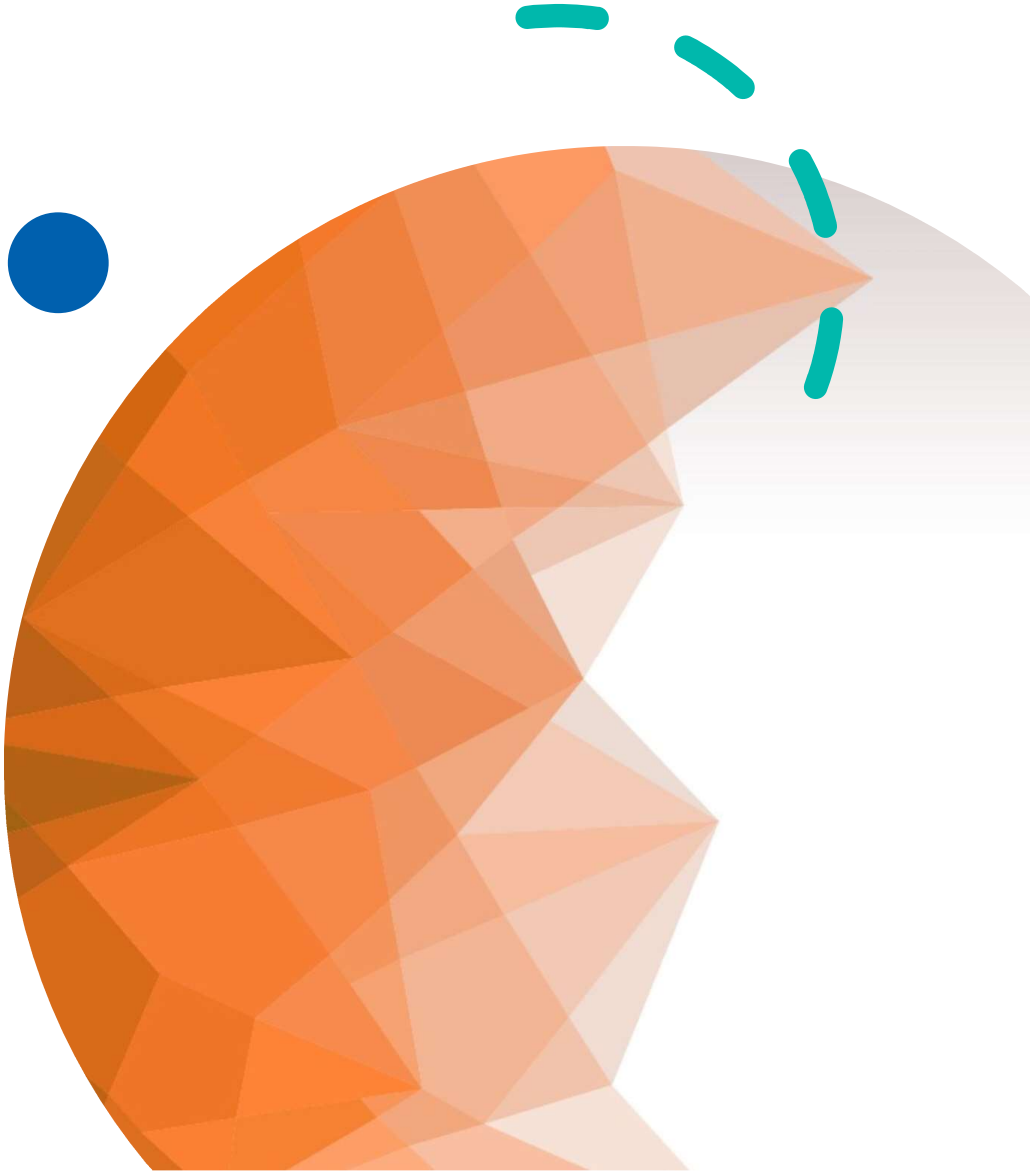
What further history?
What tests would you order?
What, if any, treatment would you offer?

Case 2: Testing and treatment offered at GP clinic

Testing: Blood – Hep B/C, HIV, Syphilis

- Urine – Chlam/Gono (trichomonas)
- Lesions – PCR syphilis (herpes)
- Throat / Anal – PCR Chlam/Gono

Rx received Ceftriaxone 500mg in 2mls lignocaine + Azithromycin 1gm



Case study 2: Results

TPPA Positive, RPR 64

Urine results NAD, HIV Neg

Scan the QR code and review *ASHM's Decision making in syphilis tool.*

What do you do now?
What further information do you need for staging

Case study 2: Follow up + Contact tracing

Referred to Pilbara Public Health

- Reported that did not want to pay for 3rd consultation
- Reported unprotected casual oral sex
- 22/9/22 T.Pallidum Ab +ve, TPPA 3+, RPR 128 received Rx LAB 2.4 MU (no sex for 7 days)
- Rx recommended LA-Bicllin 2.4 MU (via 2 IMI injections)

- Female partner tested as part of work up for IVF
  - Results 12/10/22 T.Pallidum Ab +ve, TPPA 3+, RPR 64

What do you recommend?

Case study 2: Treatment

Regular Indigenous Female Partner:

- No previous history of negative syphilis pathology testing in the last 2 years
- Unable to recall any symptoms of primary syphilis
- So unable to rule out a late latent syphilis
  - Requires 3 weeks of treatment LAB 2.4 MU (1.8gms) weekly started on

As the regular partner started treatment on 12/10/22 but male partner received treatment on 22/9/22 what issue is apparent?

Example email from WA public health unit

Public Health Unit received notification today that your patient has tested positive for syphilis.

The patient has tested positive for syphilis on serology (RPR 1:32). Public Health have been unable to find any previous syphilis serology results for this gentleman to help staging, however his clinical presentation of non-itchy rash on abdomen, genital lesion, and raised RPR would support a diagnosis of secondary syphilis and as such the following is required :

- *will require Benzathine Benzylpenicillin 1.8g (2,400,000 units) to be given IM – (900mg/1,200,00 units in 2.3ml to be given in each buttock). Treatment is provided FREE by our Public Health Unit (DO NOT WRITE SCRIPT). If he's allergic to Penicillin – contact our PHU and we will discuss other treatment options. NB this treatment is now provided free of charge in your PBS Doctor's bag. For further information please refer to the following link - https://www.pbs.gov.au/browse/doctorsbag .*
- *Prior to treatment (same day), please repeat syphilis serology RPR in order to monitor response to treatment. Opportunistic serology for BBV including Hepatitis A, B and C and HIV encouraged if not already attended.*
- *If patient has a chancre - please swab and request syphilis PCR and herpes PCR.*
- *Jarisch-Herxheimer reaction is a common reaction to treatment in patients with primary and secondary syphilis. It occurs 6 to 12 hours after commencing treatment and is an unpleasant reaction of varying severity with fever, headache, malaise, rigors and joint pains, and lasts for several hours. Symptoms are controlled with analgesia and rest. Please alert your patient's to the possibility of this reaction and reassure accordingly.*
- *Please advise them that they are considered infectious for a week after treatment – no sex for 7 days.*
- *Please inform them that a Public Health Nurse will be in contact with them to assist with contact tracing. However your assistance with contact tracing is greatly appreciated as the client may feel more comfortable discussing with the treating GP. As a starting point, we recommend sex partners from the previous six months plus duration of the index case symptoms (if any) should be assessed and treated for syphilis. Sexual contacts of the case must be treated, if you treat the contact collect a blood sample for syphilis serology and conduct a full STI/BBV screen, and provide empirical treatment for syphilis on the same day without awaiting results.*
- *Recall them in 3 months after completing treatment, then at 6 months and 12 months. The review should consist of clinical assessment and repeat serology (to monitor response to treatment).*
- *The following link demonstrates administration of benzathine penicillin treatment for syphilis. Administering benzathine penicillin treatment for syphilis - YouTube*

Take home messages

- STI Testing now requires bloods as well as urine BBV/STI screen, including syphilis, HIV and Hep B/C
- Don't fear testing for syphilis and HIV; even if you might not be able to follow up with a patient for HIV and syphilis, the public health unit gets results and will always check back in with the ordering clinician as well as be able to offer assistance with contact tracing and results interpretation
- Interpretation of RPR results can sometimes be tricky. The Public Health Unit has access to past testing and treatment history. They can assist with interpreting reinfections and contact tracing; they will often have treatment history
- For pregnant women, the time you see them may be the only time they get tested during this pregnancy
- Long-acting Bicillin is in the doctor's bag for free; keep it on hand if you have someone who needs treatment
- Prophylactic treatment of contacts and anyone presenting with symptoms before getting any results

Resources

1. ALERT FOR CLINICIANS. Syphilis outbreak across Western Australia. Available at: https://www.health.wa.gov.au/~/media/Corp/Documents/Health-for/Infectious-disease-alerts/2023/Clinician-alert-Syphilis-outbreak-Oct-2023.pdf
2. ASHM Syphilis Decision-Making tool. Available at: https://ashm.org.au/resources/syphilis-decision-making-tool/
3. Maternal syphilis screening table. Available at: https://www.kemh.health.wa.gov.au/~/media/HSPs/NMHS/Hospitals/WNHS/Documents/Clinical-guidelines/Obs-Gyn-Guidelines/Syphilis-in-Pregnancy.pdf?thn=0
4. Syphilis in pregnancy. Available at: https://www.kemh.health.wa.gov.au/~/media/HSPs/NMHS/Hospitals/WNHS/Documents/Clinical-guidelines/Obs-Gyn-Guidelines/Syphilis-in-Pregnancy.pdf?thn=0
5. Syphilis: Investigation and management of the neonate born to a mother with syphilis. Available at: https://www.cahs.health.wa.gov.au/-/media/HSPs/CAHS/Documents/Health-Professionals/Neonatology-guidelines/Syphilis-Investigation-and-Management-of-the-Neonate-Born-to-a-Mother-with-Syphilis.pdf?thn=0&hash=2C631770FA363D2B1F0F39D3C5F33910
6. Syphilis – CDNA National Guidelines for Public Health Units. Available at: https://www.health.gov.au/resources/publications/syphilis-cdna-national-guidelines-for-public-health-units?language=en

ASHM: further training

- Introduction to Syphilis Nursing (Online Learning Module)
- Introduction to Syphilis for Midwives: Western Australia (Online Learning Module)
- STI Testing in Primary Care: Western Australia (Online Learning Module)
- Syphilis Outbreak Training

Access training at: https://ashm.org.au/training/

Thank you for attending the session

To receive a copy of the presentation or for further information contact

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