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HIV Management in Pregnancy

Unique Identifier	NMP200/SSM/076 - v04.00
Document Type	Clinical Guideline
Risk of non-compliance	may result in significant harm to the patient/Health NZ
Function	Clinical Practice, Patient Care
User Group(s)	Te Toka Tumai Auckland only
• Organisation(s)	Health New Zealand | Te Toka Tumai Auckland
• Directorate(s)	Women's Health
• Department(s)	Maternity
• Used for which patients?	All antenatal patients
• Used by which staff?	Te Toka Tumai Auckland clinicians and Women's Health access holders
• Excluded	n/a
Keywords	
Author	Maternity HIV Working Group
Authorisation	
• Owner	Director - Women's Health
• Delegate / Issuer	Obstetric Medicine - High Risk Maternity
Edited by	Document Control
First issued	20 May 2009
This version issued	13 September 2024 - updated
Review frequency	3 yearly

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1. Purpose of guideline

This guideline covers the management of women with suspected or confirmed HIV infection during their pregnancy, labour, and birth, including the management for neonates within Health New Zealand | Te Toka Tumai Auckland.

2. Acknowledgment of gender

The writing group wishes to acknowledge that not everyone identifies as woman or female. The terminologies used within this document such as “pregnant woman” or “breastfeeding,” are not gender-exclusive and have been chosen for the purpose of brevity.

3. Background

It is estimated that if pregnant women with HIV infection are identified and receive a combination of interventions, the risk of perinatal HIV transmission can be reduced from 30% to less than 1%.

These interventions include:

- Regular engagement with antenatal care
- Maternal antiretroviral treatment during pregnancy and labour
- Consideration of mode of delivery
- Antiretroviral postexposure prophylaxis for neonates
- Avoidance of breastfeeding

As of 1st September 2022, HIV screening is automatically included in the first antenatal booking test bundle and will no longer be “opt-in”. Women may specifically decline HIV screening – this must be documented in the electronic maternity notes (MCIS BadgerNet); refer to Section 9 regarding the management of the baby in this scenario.

A small percentage of women will present unbooked, in labour, without antenatal screening during pregnancy. It is important that staff members involved in a woman’s care obtain routine antenatal booking blood test (which will automatically include HIV screening) with consent, either during labour or soon after delivery.

Most cases of perinatal transmission occur during labour. Therefore, there are benefits in offering treatment to a woman with a suspected or confirmed HIV infection during labour. All pregnant women diagnosed (or suspected) with HIV infection should be offered interventions to treat their infection and prevent vertical transmission.

4. Glossary

Term	Definition
AAP	American Academy of Paediatrics
AZT	Zidovudine
ART	Antiretroviral therapy
BCG	Bacillus Calmette-Guerin (vaccine against tuberculosis)
BHIVA	British HIV Association
CDC	Centres for Disease Control and Prevention
CD4	Cluster of differentiation 4 (a specific co-receptor glycoprotein on T-cells)

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Term	Definition
CS	Caesarean section
CVS	Chorionic villi sampling
ECV	External cephalic version
EDTA	Ethylenediaminetetraacetic acid (purple top tube)
EIA	Enzyme immunoassay
FBS	Fetal blood sampling
FSE	Fetal scalp electrode
GBS	Group B Streptococcus
HIV	Human Immunodeficiency Virus
ID	Infectious Diseases
LBS	Labour and Birthing suite
MCIS	Maternity Clinical Information Service
MDT	Multidisciplinary team
MFM	Maternal Fetal Medicine
NBM	Nil by mouth
NRTI	Nucleoside reverse transcriptase inhibitor
NNRTI	Non-nucleoside reverse transcriptase inhibitor
NPPA	Named patient pharmaceutical assessment (Pharmac funding)
NVP	Nevirapine
PCP	Pneumocystis pneumonia
PCR	Polymerase chain reaction
PEP	Post-exposure prophylaxis
RNA	Ribonucleic acid
RPR	Rapid plasma reagin (screening for syphilis)
SROM	Spontaneous rupture of membrane
STI	Sexually transmitted infection
Tenofovir DF	Tenofovir Disoproxil Fumarate
VL	Viral load
WHO	World Health Organisation
3TC	Lamivudine

5. Antenatal management

All cases of maternity HIV infection residing in the greater Auckland area are managed jointly by clinicians, specialist nurses, and specialist midwives within the Infectious Diseases, High-Risk Maternity, and Neonatology services at Te Toka Tumai Auckland. Maternity cases seen at Te Toka Tumai Auckland include both newly diagnosed and those with established HIV infection. All cases are discussed regularly at the combined multidisciplinary meeting. All women will be given the form CR3137 Intrapartum and Postpartum Management of Women with HIV (see Associated Document) to be used during their delivery. Women and whānau will be offered the opportunity to meet with the neonatal team during pregnancy to ensure a safe transition of follow-up and care for the baby.

The multidisciplinary team will also provide continuity of care to the woman, her partner, and whānau. The option of shared care with an independent LMC midwife may be offered to a select group of women with established HIV upon agreement by the multidisciplinary team. Psychological support will be provided by the community HIV team, alongside other support services such as Positive Women and Women's Health social worker according to individual and whānau needs.

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5.1 Women with new HIV diagnosis and commencing ART

This group includes patients diagnosed during pregnancy through the first antenatal booking test bundle.

- **Obtain baseline investigations**:
  - CD4 count
  - HIV VL
  - HIV resistance testing
  - Liver function tests (potential hepatotoxicity of ART)
  - Hepatitis B and hepatitis C serology
  - Quantiferon-TB Gold
  - Syphilis serology and STI screen
- **ART should commence as soon as possible** and is prescribed through the ID service. It will likely include a NRTI backbone, with either an integrase inhibitor, protease inhibitor, or NNRTI. *Example: Tenofovir DF* **+** *Emtricitabine* **+** *Dolutegravir.*
- **Repeat HIV VL at four weeks** after initiation of ART. Thereafter, the frequency of VL testing will depend on treatment adherence, gestation at diagnosis, and intercurrent obstetric concerns (where earlier delivery may be indicated).
- **Repeat HIV VL at 36 weeks** and consider testing at the time of delivery, depending on previous VL results, adherence, and trajectory of VL.
- **If starting dolutegravir <12 weeks gestation**, prescribe folic acid 5 mg once daily for the first trimester. A discussion and shared decision-making process between the woman and her HIV specialist should occur regarding dolutegravir use in early pregnancy. If prescribed a non-dolutegravir based regimen, the standard folic acid supplementation of 0.8 mg once daily is recommended.
- **If failure to suppress VL <50 HIV RNA copies/mls** occurs:
  - Review adherence and other concomitant medications
  - Check resistance testing (if not done)
  - Consider therapeutic drug monitoring (if available)
  - Optimise ART regimen
  - Consider intensification of treatment
- **Continue ART postpartum and long term.**

5.2 Women with established HIV diagnosis

- **If conceived on an effective ART regimen** (i.e., achieving VL suppression), the current regimen is usually continued. However, if on daily raltegravir, this should be changed to raltegravir 400 mg twice daily due to the pharmacokinetic changes of pregnancy; and darunavir/ritonavir may also be changed to twice-daily dosing, particularly during the second and third trimesters. Currently, there is insufficient understanding of dual regimens in pregnancy for these to be recommended.
- The HIV specialist will review ART regimen and provide further guidance if the patient conceived on non-standard treatment.
- **If taking dolutegravir pre-pregnancy**, dolutegravir may be continued in the first trimester with high-dose folic acid supplementation 5 mg once daily for the first trimester. A discussion and shared decision-making process regarding dolutegravir use in early pregnancy should occur with the woman's HIV specialist. Otherwise, prescribe standard folic acid of 0.8 mg once daily with non-dolutegravir-based regimens.

5.3 Invasive testing

- Defer CVS and amniocentesis until VL <50 HIV RNA copies/ml.
- If not already on ART and invasive diagnostic test cannot be delayed until VL is fully suppressed, start ART immediately **AND** include raltegravir 400 mg bd **plus** a single dose nevirapine 200 mg to be given two to four hours before procedure.

5.4 External cephalic version (ECV)

- Defer ECV until VL <50 HIV RNA copies/ml.

6. Intrapartum management of women established on ART during pregnancy – refer to form CR3139

Women should be given the opportunity for an open discussion about the mode of delivery at regular assessments during their pregnancy. For women who have full VL suppression during their pregnancy, vaginal delivery is supported, and elective caesarean delivery will be for obstetric indications. Women are encouraged to come to LBS for assessment at the earliest signs of labour.

A planned caesarean section should be aimed for 39+0 weeks in the absence of other medical or obstetric complications. ART **must be continued** during the period while the woman is NBM for operative delivery. All medications **must be charted** on the medication chart.

In cases of uncontrolled VL, a planned caesarean section should be considered for 38+0 weeks to avoid labour (or as per MFM advice).

6.1 Presenting in labour ≥34+0 weeks

- Fetal betamethasone (as per Preterm Labour – Management of Threatened and Active Preterm Labour guideline) if gestation ≤34+6 weeks.

HIV VL (RNA copies/ml)	Intrapartum management
<50	• Offer vaginal delivery if no other obstetric contraindication.
50 to 399	• CS may be considered, taking into account the actual VL, the trajectory of VL, length of time on treatment, adherence issues, obstetric factors, and the woman's views. • **Consider** additional IV zidovudine (AZT) • Discuss with the ID service and refer to the pre-labour delivery plan. • Note that viral 'blips' are common in patients with excellent adherence to ART and do not require a change in delivery plan.
≥400	• CS recommended. • Additional IV zidovudine (AZT)
Unknown or >100,000	• See section 7

6.2 Presenting in labour <34+0 weeks

- Inform the on-call ID Physician and Obstetric Physician to assist with coordinating discussions with the Neonatologist and Pharmacist.
- Fetal betamethasone (as per Preterm Labour – Management of Threatened and Active Preterm Labour guideline).
- Conduct an MDT discussion about the timing and mode of delivery.

HIV VL (RNA copies/ml)	Intrapartum management
<50	• As per section 6.1
50 to 399	• As per section 6.1 • With the consideration of stat dose nevirapine 200 mg **at least** 2 hours prior to delivery **or** double-dose tenofovir DF * **+** raltegravir 400 mg bd
≥ 400	• As per section 6.1
Unknown or >100,000	• See section 7

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* The preterm neonate has poor oral absorption of Tenofovir DF; hence, the maternal loading dose is necessary.
** Nevirapine, tenofovir DF, and raltegravir are not routinely stocked items in LBS. They can be obtained from the Inpatient Pharmacy during working hours. After hours, the Clinical Midwifery Advisor should be contacted to arrange for an emergency supply from the after-hours cabinet.

6.3 SROM ≥37+0 weeks

- In all cases of pre-labour SROM ≥37+0 weeks, **aim for delivery within 24 hours**.

HIV VL (RNA copies/ml)	Management
<50	• **Immediate** induction or augmentation.
50 to 399	• Consider pre-labour CS, taking into account the actual VL, trajectory of VL, length of time on treatment, adherence issues, obstetric factors, and the woman's views. • **Consider** additional IV zidovudine (AZT) • Discuss with the ID service and refer to the pre-labour delivery plan. • Note that viral 'blips' are common in patients with excellent adherence to ART and do not require a change in delivery plan.
≥400	• Immediate CS recommended. • Additional IV zidovudine (AZT)
Unknown or >100,000	• See section 7

6.4 SROM 34+1 to 36+6 weeks

- Follow the same recommendation as per SROM >37+0 weeks, **with the exception** of those who require GBS prophylaxis. **Aim for delivery within 24 hours**.
- Administer fetal betamethasone if gestation ≤34+6 weeks.

6.5 SROM ≤34+0 weeks

- Follow the same recommendation as per section 6.2 (Presenting in labour <34 weeks).
- Engage in MDT discussion with MFM or Obstetrics about the timing and mode of delivery. Delivery is recommended from 34 weeks with SROM cases who are not in labour to reduce the risk of chorioamnionitis.

7. Intrapartum management of untreated HIV, unknown VL or VL >100,000 RNA copies/ml

Intrapartum antiretroviral treatment for the above scenario	• Stat dose oral nevirapine 200 mg.
	• **AND** oral zidovudine (AZT) 300 mg + lamivudine 150 mg BD.
	• **AND** raltegravir 400 mg BD.
	• **AND** IV zidovudine (AZT) for the duration of labour until cord is clamped.

	• Additionally, if preterm labour ≤34+0 weeks:
	  ○ Add double dose Tenofovir DF* and
	  ○ Administer fetal betamethasone if gestation <34+6 weeks.

Mode of delivery	• Caesarean section

* The preterm neonate has poor oral absorption of tenofovir DF; hence, the maternal loading dose.

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** Nevirapine, tenofovir DF, and raltegravir are not routinely stocked items in LBS. They may be obtained from the Inpatient Pharmacy during working hours. After hours, the Clinical Midwifery Advisor should be contacted to arrange for an emergency supply from the after-hours cabinet.

Nevirapine rapidly crosses the placenta and maintains an effective concentration in the neonate for up to 10 days. Zidovudine (AZT), lamivudine, and raltegravir are also preferred as they rapidly cross the placenta.

- Discuss with the ID service regarding ongoing antiretroviral therapy for the mother.
- Contact the neonatologist as soon as possible to develop an appropriate antiretroviral regimen for the neonate.

8. Intravenous Zidovudine (AZT) during labour

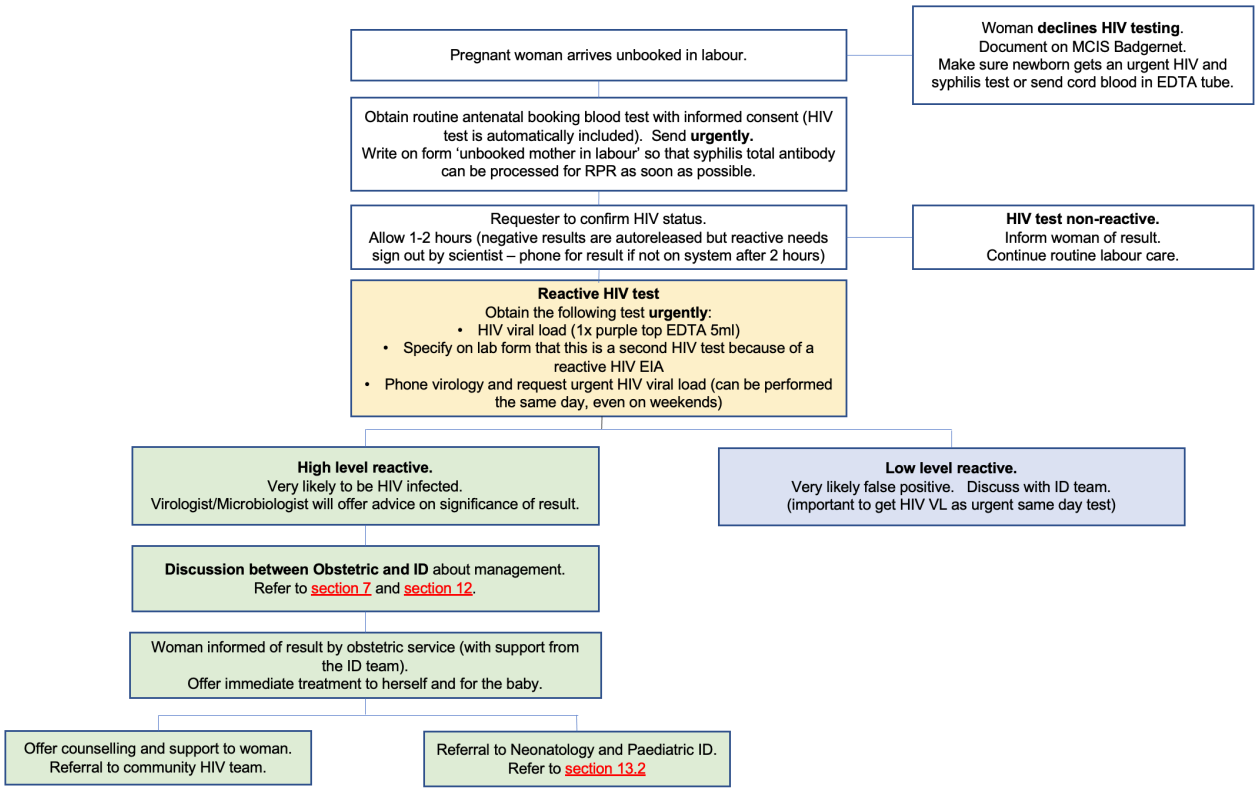
Indications for intrapartum IV zidovudine (AZT)	• To consider if sustained VL >50 presenting in labour **or** with SROM, regardless of mode of delivery, in discussion with the ID service.
	• VL ≥1000 RNA copies/ml admitted for pre-labour CS.
	• Untreated HIV presenting in labour.
	• SROM when the current VL is not known.

How to administer IV zidovudine (AZT)	• Loading dose: 2 mg/kg over one hour. • **Followed by** maintenance infusion 1 mg/kg/hour until cord is clamped.

High dose intravenous zidovudine (AZT) is administered to reduce perinatal HIV transmission during labour and birth. **Stock of zidovudine (AZT) is kept on LBS (91) and Ward 98**. If needed, further supply can be obtained from the Inpatient Pharmacy during working hours. After hours, contact the Clinical Midwifery Advisor for emergency supply from the afterhours cabinet.

Refer to the NoIDs Medicine Administration Guideline for zidovudine administration instructions (see Associated documents).

9. Unbooked women with high level reactive HIV EIA in labour or women who previously decline antenatal screening



9.1 Reactive HIV EIA result

There are two possible outcomes:

9.1.1 Low-level reactive HIV EIA

- Likely a false positive; unlikely to be HIV infected. An urgent HIV viral load is recommended (obtain patient consent).
- The requestor should inform the obstetrician of the result. A discussion between obstetrician, ID, virology/microbiology, and obstetric physician should follow.
- Treatment is unlikely to be offered unless the patient is particularly high risk, depending on the individual clinical scenario. The specialist should ask the woman about recent exposure to HIV in the last 2-4 weeks (window period).

9.1.2 High-level reactive HIV EIA

- Very likely a true positive result. An urgent HIV viral load is recommended (obtain patient consent).
- A discussion between the obstetrician, ID, virology/microbiology, and obstetric physician should occur to decide on management plan.
- The woman should be informed by obstetrician of possible HIV status, with support from the ID service and Community HIV nurses, regarding recommended management, treatment and follow up for herself and her baby.
- Contact the neonatologist as soon as possible (pre-delivery is preferable) to develop an appropriate antiretroviral regimen for the neonate.

9.2 Bloods for confirmatory HIV testing

9.2.1 Follow-up bloods and results

- All reactive HIV EIA results should be followed up with additional testing to exclude or confirm HIV infection. The virologist/microbiologist should advise on requirements for further confirmatory testing as per flow chart. Follow-up bloods should be taken either during labour, if time, or after delivery.
- HIV VL results are likely to take five to seven working days. This should be communicated to the woman. It is likely the woman will be discharged prior to the VL result being available.

9.3 Labour and delivery management of unbooked women with high-level reactive HIV EIA in labour

If the woman is in established labour, commence maternal treatment to reduce perinatal HIV transmission, as per Section 8. If the woman is not in established labour, a decision on mode of delivery should involve the woman, obstetrician, and ID physician. If HIV is highly likely, a caesarean section is recommended. The neonate will require PEP while awaiting confirmatory testing in the mother.

9.4 Post-delivery management of unbooked women with high-level reactive HIV EIA

Following delivery, ART should be continued in consultation with the ID team until the HIV VL is available. Most commonly, dolutegravir and tenofovir/emtricitabine will be prescribed.

10. Interventions during labour

Traditionally, amniotomy, fetal scalp electrode, fetal blood sampling, and instrumental delivery have been avoided due to the theoretical risk of HIV transmission. Data from the pre-ART era showed little or no risk of transmission to the fetus with these interventions. However, there is limited data from the ART era.

10.1 Amniotomy

- Amniotomy can be performed as part of labour induction or augmentation for women for whom vaginal delivery has been recommended based on viral load.

10.2 Fetal blood sampling, fetal scalp electrode

- FBS and FSE can be used during labour if imperative for optimal labour management.
- Women should be informed that transmission risk is not increased when maternal VL is <50 HIV RNA copies/ml, **although this cannot be conclusively proven from the current evidence**.
- Be aware of other contraindications for FBS and FSE such as active maternal herpes simplex infection.

10.3 Instrumental delivery

- There are theoretical reasons why low-cavity forceps delivery may be preferred over ventouse delivery, as it is generally associated with lower rates of fetal trauma. There is no trial data comparing different instrumental deliveries with risk of HIV transmission.
- In women with VL <50 HIV RNA copies/ml, it is unlikely that the type of instrument used will affect transmission risk. Therefore, the method deemed most appropriate by the assessing clinician should be used, as per RANZCOG recommendations, similar to the non-HIV population.

11. Management of the third stage of labour

Active management of the third stage is recommended as best practice. It is recommended that the cord be clamped early i.e., as soon as the baby is delivered.

Take **cord blood for a full blood count at delivery**. No information regarding maternal HIV status is required when requesting a full blood count for the baby.

12. Postpartum management

12.1 Infant feeding

Women should receive patient-centred, evidence-based counselling about infant feeding options to allow for shared decision-making. Discussions should take place during regular assessments, and final decisions clearly documented in MCIS BadgerNet.

The safest method for women with HIV to feed their baby is to bottle-feed with formula milk or screened and or pasteurised donor milk. There is no risk of HIV transmission after birth in infants who are formula-fed. Therefore, consistent with international guidelines (BHIVA updated 2020, CDC updated 2023, AAP 2024), the Ministry of Health (Manatū Hauora) recommends that women with HIV in New Zealand do not breastfeed their infants. Maternity staff on the postnatal ward should ensure that mothers receive support and education on how to sterilise feeding equipment and prepare infant formula safely. There may be availability of funded formula milk for women with HIV; please discuss with the High-Risk Medical midwife.

Women who choose to breastfeed should be advised of the small ongoing risk of HIV transmission. This risk is currently estimated to be around 0.3% at six months and increases with longer duration of breastfeeding. The research regarding ‘undetectable=untransmittable’ (U=U) applies to sexual transmission and cannot be applied to breastfeeding.

Multidisciplinary consultation must involve neonatology, paediatric ID, and lactation specialist for all women who chose to breastfeed. This must take place **before delivery** so that appropriate postnatal follow-up can be planned.

Women who maintain a fully suppressed viral load with good adherence to ART and choose to breastfeed should be supported in their decision. It is vital to maintain excellent adherence to ART. Monthly maternal and infant HIV RNA VL testing for the duration of breastfeeding is recommended, and for a further two months after breastfeeding stops. Women should receive education on the ways to make breastfeeding “safer” with respect to HIV transmission.

Brief advice for women choosing to breastfeed	• Exclusively breastfeed (no mixed feeding). • Limit the duration of breastfeeding to the shortest possible time. • Practice the BHIVA "safer triangle" (See Appendix 1: HIV and feeding your newborn baby) o Maintain an undetectable maternal VL, with monthly testing. o Stop breastfeeding if the infant has diarrhoea or vomiting and switch to formula milk. Do not restart breastfeeding, even after the infant recovers, as it is difficult to know when the baby's gut has fully recovered. o Stop breastfeeding if mastitis or cracked nipples and switch to formula milk or milk expressed more than two days before the breast problem began. May resume breastfeeding two days after maternal recovery. o Stop breastfeeding if maternal diarrhoea or vomiting develops, as ART may not be well absorbed. Switch to formula milk or milk expressed more than two days before the gastroenteritis. Discuss with the ID team before recommencing breastfeeding.

For more detailed advice for women choosing to breastfeed, refer to BHIVA HIV and feeding your newborn baby "safer triangle". For women who choose to breastfeed, ongoing lactation support will be provided by the midwifery team, lactation specialists, and well-child provider (if >6 weeks postpartum and still breastfeeding), in collaboration with the community HIV team.

12.2 Lactation suppression

Cabergoline 1 mg as a single oral dose should be prescribed and administered immediately post-delivery (before leaving LBU) for women planning to formula feed.

12.3 Contraception

Contraceptive needs should be discussed and offered to all women with HIV during regular assessments, with final decisions clearly documented in MCIS BadgerNet.

Some antiretroviral medications may affect the efficacy of systemic-based contraception. A full guide to drug interactions between hormonal contraceptives and antiretroviral medication is available at https://www.hiv-druginteractions.org/checker.

13. Care of the neonate – refer to form CR3137

A paediatric consultant should meet with the parents at an antenatal visit to discuss the postnatal management of the baby. A management plan for the baby should be developed early in pregnancy.

A copy of the Starship Management of infants born to HIV positive mothers (https://starship.org.nz/guidelines/hiv-management-of-infants-born-to-hiv-pregnant-women/) should be printed and placed in the mother's clinical record for reference during labour. This guideline covers:

- Newborn management immediately after birth.
- Breast and infant feeding considerations.
- Duration of newborn PEP based on risk categorisation.
- Considerations for other additional infant ART.
- PCP prophylaxis and postnatal immunisation.
  - Live vaccinations such as the rotavirus vaccine is not contraindicated unless the infant is confirmed to have HIV diagnosis or is severely immune suppressed.

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- Blood testing regimen for infants not receiving breastmilk.

13.1 Newborn PEP based on risk categorisation

Post-exposure prophylaxis with oral zidovudine (AZT) syrup should be started within four hours of birth for all infants born to mothers with HIV. This will be prescribed by the neonatal clinician at delivery based on the infant birth weight. A stock of zidovudine syrup is kept on ward 98, however, in emergency there is stock available in LBS. See Starship Guideline for Neonatal Zidovudine Drug Protocol.

Neonatology or Paediatric ID will need to apply for NPPA for infant ART pre-delivery.

The duration of newborn PEP depends on risk categorisation which relates to maternal VL at or around the time of delivery.

Risk category	Definition	Duration of PEP
Very low risk	• Woman has been on ART >10 weeks • **AND** VL <50 RNA copies/ml **at or** after 36+0 weeks • **AND** Two documented VL <50 RNA copies/ml at least four weeks apart	• Oral zidovudine (AZT) for two weeks • Not to continue beyond two weeks even if infant is breastfed.
Low risk	• Criteria for “very low risk” not fulfilled • **But** VL <50 RNA copies/ml at or after 36+0 weeks	• Oral zidovudine (AZT) for four weeks • Not to continue beyond four weeks even if infant is breastfed.
High risk	• VL >50 RNA copies/ml	• Start ART zidovudine/ lamivudine/nevirapine (AZT/3TC/NVP) within four hours of birth • Consult with Paediatric ID team about combination therapy and duration of PEP.

Infants born preterm are unable to take oral medication and should be commended on intravenous zidovudine (AZT) until enteral feeding is established (at which time zidovudine may be given enterally).

For preterm infant dosing, contact the neonatologist as soon as possible to develop an appropriate antiretroviral regimen.

13.2 Babies born to unbooked women with high-level reactive HIV EIA result

The neonatologist should be informed immediately of all maternal high-level reactive HIV EIA results. Based on this result, the baby is prescribed antiretroviral treatment to reduce perinatal transmission of the HIV virus. The neonatologist will advise on the appropriate antiretroviral regimen.

The antiretroviral medication should be commenced within four hours after birth and continued until subsequent laboratory testing confirms the woman’s HIV status. Viral load is likely to take five to seven working days.

14. Discharge planning and follow up

Early postnatal discharge may not be suitable. The duration of postnatal stay will be individualised according to advice from the multidisciplinary team. Postnatal discharge over a weekend must be thoroughly discussed with ID and neonatologist. The neonatologist will apply for special authority for AZT which **must be collected** from the nominated pharmacy **and given to the mother** on discharge.

Postnatal care at home for the mother will be supervised by either the specialist medical midwife, designated community midwife or independent LMC midwife. Women residing in the greater Auckland area should continue to receive ongoing HIV specialist care through the community HIV team and the ID service at Te Toka Tumai.

All babies born to women with HIV, including babies born to mother with a high level reactive HIV EIA should be followed up at the neonatal clinic until 24 months of age. Care of any infants subsequently diagnosed with HIV infection will be transferred to the specialist at Starship Hospital.

15. Confidentiality of client information

All client information should be kept confidential at all times. Only staff members directly involved in maternity and infant care should have access to the patient's clinical record.

- Care plan to be documented on BadgerNet Risk Page.
- No documentation of HIV status on whiteboard.
- Documentation of HIV status should be confined to the clinical record and should not be documented on the outside of clinical record.
- Staff members should take extra care to ensure that a woman's HIV status is not written on the ward list, as printed lists may be left lying around.
- Correspondence should be copied to members of the clinical team and to the general practitioner with the woman's consent.
- Do not discuss issues related to HIV infection when any visitors or whānau are in the room.
- Ensure drug chart records for the baby and the mother are not left in the woman's room.

15.1 Giving results

There are numerous issues facing a woman with a confirmed HIV infection. Support for the woman and her whānau is available from the community HIV team based at Te Toka Tumai Auckland. The community HIV team are available to facilitate counselling and arrange referrals to other support agencies such as Positive Women. There is a designated social worker within the community HIV team that can assist with any advocacy and other social issues.

15.2 Communication – key message

If the requestor is unavailable due to a change of shift, then it is the responsibility of the health professional taking over the woman's care to communicate the reactive HIV EIA result, with support from the community HIV team or ID service.

16. Standard precautions

Standard precautions are used when in contact with all:

- Body fluids
- Secretions and excretions (except sweat)
- Non-intact skin
- Mucous membranes.

Standard precautions to be followed regarding exposure to blood and body fluids (https://adhb.hanz.health.nz/Pages/Blood-and-body-fluid-accidents.aspx

17. Referral process

17.1 Community HIV team

- Available weekdays 8 am to 4:30 pm.
- Direct dial 09 375 7077 extension 22977 (leave a message). The phone is checked regularly.
- Email: HIV@adhb.govt.nz.

17.2 Positive Women

Positive Women provides information and peer support for people living with HIV and AIDS.

- Weekday hours Monday to Friday 9 am to 5pm.
- Phone 09 303 0094 or 0800 769 848.
- Email: info@positivewomen.co.nz.

18. Associated document

- Antenatal Corticosteroids to Improve Neonatal Outcomes
- Blood and Body Fluid Accidents
- Group B Streptococcus (GBS) – Prevention of Early-Onset Neonatal Infection
- Hepatitis B flowchart – Women's Health External Website: For Health Professionals: Referrals and Information: Maternity: Pathways, Guidelines, Policies.
- HIV – management of infants born to HIV+ mothers – Starship Guideline
- Infection Prevention and Control
- Intrapartum Fetal Surveillance Policy
- Medication Administration Guidelines – Zidovudine
- Pneumocystis jirovecii (carinii) prophylaxis and pneumonia (PCP) – Starship Guideline
- Postpartum Haemorrhage (PPH) Prevention and Management
- Preterm Labour – Management of Threatened and Active Preterm Labour
- Privacy Policy
- Transmission-Based Precautions (inclusive of Notifiable Diseases) – Infection Prevention
- Zidovudine Drug Dose Guideline – Starship Guideline

Clinical form:

- CR3137 Intrapartum and Postpartum Management Women with HIV

19. Supporting evidence

- American Academy of Paediatrics – Infant Feeding for Persons Living with and at Risk for HIV in the United States: Clinical Report (2024). Retrieved from Abuogi L, Noble L, Smith C; COMMITTEE ON PEDIATRIC AND ADOLESCENT HIV; SECTION ON BREASTFEEDING. Infant Feeding for Persons Living With and at Risk for HIV in the United States: Clinical Report. Pediatrics. 2024 Jun 1;153(6):e2024066843. doi: 10.1542/peds.2024-066843. PMID: 38766700.
- BHIVA guideline – Management of HIV in Pregnancy and Postpartum 2018 (2020 third interim update). Retrieved from https://www.bhiva.org/file/5bfd3080d2027/BF-Leaflet-1.pdf.

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- Te Whatu Ora – New Zealand Immunisation Schedule. Retrieved from https://www.tewhatuora.govt.nz/health-services-and-programmes/vaccine-information/immunisation-programme-updates/.
- University of Liverpool – HIV Drug Interactions. Retrieved from https://www.hiv-druginteractions.org/checker.
- US guideline – Recommendations for the Use of Antiretroviral Drugs During Pregnancy and Interventions to Reduce Perinatal HIV Transmission in the United States (updated Jan 2024). Retrieved from https://clinicalinfo.hiv.gov/en/guidelines/perinatal/recommendations-arv-drugs-pregnancy-prevent-hiv-improve-maternal-health.

20. Legislation

- Health and Disability Commissioner (Code of Health and Disability Services Consumers' Rights) Regulations 1996

21. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Te Toka Tumai Auckland guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

22. Correction and amendments

The next scheduled review of this document is as per the document classification table. However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or Document Control without delay.

Appendix 1: HIV and feeding your newborn baby

HIV and feeding your newborn baby

The safest way for a person living with HIV in the UK to feed their baby is to bottle feed using formula milk.

If you are on HIV treatment with an undetectable viral load and choose to breast/chestfeed, we can help you make it as safe as possible for your baby. However, it will not be as safe as using formula; there is no risk at all using formula. Until we know more about the safety of breast/chestfeeding on HIV treatment, this guidance will give your baby their best chance of remaining HIV free while breast/chestfeeding. Always protect your baby using 'The Safer Triangle':

No virus

If the HIV virus is detectable in your blood, there will be HIV in your milk, and HIV will enter your baby's body during feeding. You should only breast/chestfeed if you are taking treatment and your HIV is undetectable

Healthy breasts/chest

There may be HIV in your milk if your nipples are cracked or bleeding, or if you have thrush or mastitis. Only breast/chestfeed if your breasts/chest and nipples are healthy

Healthy tummies

Diarrhoea and vomiting show that a tummy is irritated. If your baby's tummy is irritated, it may be more likely that HIV will cross into their blood stream. If your tummy is irritated, you may not absorb your anti-HIV medication properly. Only breast/chestfeed if both of you have a 'healthy tummy'

The Safer Triangle means:

No virus + *healthy breasts/chest* + *healthy tummies*

Only breast/chestfeed if your HIV is undetectable

AND

both you and your baby are free from tummy problems

AND

your breasts/chest and nipples are healthy with no signs of infection

If HIV virus becomes detectable in your blood: stop breast/chestfeeding and start using formula milk. Do not use milk you have expressed and stored. Feed your baby using formula only. Your baby may need to take anti-HIV medication as post exposure prophylaxis. Contact your clinic team to discuss this urgently.

If your baby is unwell with diarrhoea and/or vomiting: feed your baby with formula milk only while your baby is unwell. As it can be difficult to know when the baby's gut lining has fully recovered, we do not advise restarting breast/chestfeeding, but continuing formula milk. Contact your HIV team for advice on what to do.

If you have diarrhoea or vomiting, or a breast/chest injury or infection: stop breast/chestfeeding and feed your baby with formula milk OR use milk that you expressed more than 2 days (48 hours) before your tummy or breast problem began. You may return to breast/chestfeeding 2 days after your breast/chest has healed. If you had tummy problems, you must contact your clinic team before breast/chestfeeding again.

How to help protect your baby from HIV while breast/chestfeeding

How to tell if breast/chestfeeding is going well

Sometimes it is hard to get breast/chestfeeding going, and not all parents find it easy at the start, especially learning how to make sure the baby latches on well to the nipple. At first it can also be hard to know whether your baby is getting enough milk. You can be reassured they are, if your baby has plenty of wet and dirty nappies. Don't be afraid to ask for support from your midwife, or a lactation consultant.

Taking your anti-HIV medication

Taking your anti-HIV medication at the right time every day ensures the virus is asleep in your blood, which protects both you and your baby. Taking your medication as perfectly as possible is just another part of the love that you are already giving to your child.

Short and sweet

The shorter the time you breast/chestfeed your baby, the lower the risk your baby will have of getting HIV. In a study of women breastfeeding on anti-HIV treatment (the PROMISE study; see reference below), babies breastfed for 12 months had double the chance of getting HIV compared to those who breastfed for 6 months.

No solids before 6 months of age while breast/chestfeeding

Introducing your baby to solid foods (sometimes called weaning, complementary feeding or mixed feeding) should start when your baby is around 6 months old. If your baby is less than 6 months old, they should receive only breast/chest or formula milk and NO solids.

Giving breast/chest milk with other solid foods may irritate the young baby's tummy and increases the risk of HIV passing to the baby. Ideally, before starting to wean your baby, you should transition from breast/chestfeeding to giving your baby formula milk only.

When babies are 6 months old they are ready to start being weaned, and can gradually have simple weaning foods along with their formula milk. Using only formula milk while weaning means your baby will get the vitamins and nutrients they need to grow without any risk of HIV; formula milk is still the safest way to feed your baby in the UK.

For more weaning advice, please see the NHS website: **www.nhs.uk/conditions/baby/weaning-and-feeding/babys-first-solid-foods/**

Be prepared, in case feeding does not go to plan

Breast/chestfeeding does not always go to plan for any parent. Although exclusive breast/chestfeeding is ideal, if you don't have enough milk, it is alright at any age to give your baby formula milk as well as breast/chest milk, if they need a top up.

Although research has not shown that giving breast/chest milk in combination with formula milk increases the risk of babies getting HIV, this is only recommended in certain situations. It is important to manage these situations with extra planning; the advice for someone breast/chestfeeding with HIV might be different from advice for others. We encourage you to tell your community midwife about your HIV to make sure they give you the right advice for you and your baby. If you are uncertain about something, don't hesitate to ask your specialist midwife, specialist children's nurse or HIV doctor; make sure you have a number to call.

Reference: Prevention of HIV-1 transmission through breastfeeding: efficacy and safety of maternal antiretroviral therapy versus infant nevirapine prophylaxis for duration of breastfeeding in HIV-1-infected women with high CD4 cell count (IMPAACT PROMISE): a randomized, open label, clinical trial. J Acquir Immune Defic Syndr 2018; 77: 383–392.

Help with infant feeding problems for people with HIV

This section lists some of the problems that may occur while you are breast/chestfeeding. Get help early, if you can. If you cannot reach a healthcare professional who understands HIV and breast/chestfeeding, use The Safer Triangle and ask your community midwife or GP for advice.

Mastitis

When milk stays in the breast/chest for longer than usual, or the whole breast is not being fully emptied of milk, you can get a blocked milk duct. This can become inflamed and/or infected, and is called mastitis. Mastitis is very common. Speak to your community midwife about how to prevent and treat a blocked duct so that you do not get mastitis.

Symptoms of mastitis

- A red, swollen area on your breast/chest that may feel hot and painful to touch.
- A lump or area of hardness on your breast/chest.
- A burning pain in your breast/chest that may be continuous or may only occur when you are feeding.
- Nipple discharge, which may be white or contain streaks of blood.
- You may also feel achy, have a high temperature and/or chills and be very tired.
- Mastitis causes the amount of HIV in milk to increase if not on treatment.

Mastitis can develop quickly. See your GP or go to A&E if you have symptoms of mastitis to avoid a breast/chest abscess forming.

If you develop mastitis

- **Do not breast/chestfeed your baby if you have mastitis**, the safest thing is to stop breast/chestfeeding and change to formula milk.
- Express and discard your milk regularly from both breasts/sides of the chest.
- Discard any milk expressed within the 2 days before the breast/chest became sore.
- Rest and drink lots of fluids, and avoid tight clothes or bras.
- Warm baths and directing a hot shower onto the affected breast/chest can help.
- You may return to breast/chestfeeding 2 days after your mastitis has healed.

Cracked or bleeding nipples

Sore and injured nipples are usually caused by the baby not latching onto the nipple well. Early help can prevent sore nipples becoming cracked or bleeding. Ask your community midwife or health visitor for help with this. Irritated and broken skin can allow your blood to get into your breast/chest milk. This could increase the chance that your baby may get HIV.

- **Do not feed your baby from the sore breast/side of the chest** while the nipple is cracked.
- Hand express or pump milk from the sore breast/side of the chest and discard this milk.
- Do not feed you baby from the sore breast/side of the chest until it is healed and has been pain free with no bleeding for at least 2 days.
- Breast/chestfeed your baby from the other breast/side of the chest.
- If both nipples are cracked and sore – even if there is no blood – then do not breast/chestfeed.
- Use your supply of stored expressed milk instead or feed your baby using formula milk.
- You may return to breast/chestfeeding 2 days after your nipples have completely healed.

Diarrhoea and vomiting in the breast/chestfeeding parent

You may not absorb your HIV medicine well if you have diarrhoea or are vomiting. This may cause a temporary increase in the amount of HIV in your blood and breast/chest milk.

- **Do not breast/chestfeed your baby if you have diarrhoea or are vomiting** because you may not have absorbed enough of your HIV medicine.
- Use your supply of stored expressed breast/chest milk or formula milk instead.
- Express your milk and discard it until at least 2 days after you last had diarrhoea or vomited.
- Tell your clinic team, as they may want to check that the virus in your blood is still undetectable. The team may ask you not to breast/chestfeed your baby, and to discard any expressed breast/chest milk, until they have been able to check the amount of virus in your blood.

Diarrhoea and vomiting in the baby

If your baby is sick with diarrhoea and/or vomiting (gastroenteritis), it is safer to feed them with formula milk and not breast/chest milk. Diarrhoea and vomiting are signs that your baby's tummy and intestines are irritated. This will make it more likely that any HIV in your breast/chest milk can enter into your baby's blood and cause infection. After a bout of diarrhoea and/or vomiting, it can take some time for the baby's tummy and intestines to fully get back to normal.
Start formula feeding and continue; do not return to breast/chest milk. Contact your HIV clinic team for advice.

If HIV becomes detectable in your blood

- If your HIV viral load becomes detectable in your blood, **stop breast/chestfeeding and start feeding your baby with formula milk**.
- Your baby may need to take anti-HIV medication as post exposure prophylaxis. Contact your clinic team to discuss this urgently.

Finally...

We are learning more all the time about how to keep parents with HIV and their babies healthy. You may have a question for which we do not yet have a definite answer. If this happens we will use our experience to guide you. We will tell you when we know about new scientific evidence. If you have a question and cannot reach us, use The Safer Triangle.

Contact details

Mentor Mothers at Positively UK http://positivelyuk.org/pregnancy/
Helen Rogers: telephone number, 020 7713 0444; Email address, hrogers@positivelyuk.org

For other organisations that can provide basic breast/chestfeeding advice, please see the NHS website 'Breastfeeding Help and Support' (https://www.nhs.uk/conditions/baby/breastfeeding-and-bottle-feeding/breastfeeding/help-and-support/) for a list of websites and helplines.

Helplines

National Breastfeeding Helpline: 0300 100 0212
Association of Breastfeeding Mothers: 0300 330 5453
La Leche League: 0345 120 2918
National Childbirth Trust (NCT): 0300 330 0700

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January 2023

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