HIV Screening in Pregnancy and the Intrapartum & Postnatal Management of Women & Birthing People who are HIV Positive.

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1. Introduction and who this guideline applies to

This guideline is intended for the use of all Obstetric, Medical, Anaesthetic, Midwifery, and Pharmacy staff involved in screening for HIV in Pregnancy and the Antenatal, Intrapartum and Postpartum care of women and birthing people who are HIV Positive.

In addition, these guidelines aim to provide all staff within the Maternity Unit with clinical practice guidance about HIV pregnant women and people, applying guidelines published by the British HIV Association to the local situation.

The standard text for the care of pregnant HIV-Positive women and people are the guidelines produced by the British HIV Association (www.bhiva.org.uk), giving extensive evidence for care during pregnancy, strategies for reducing transmission between mother and baby, and detailed information regarding drug regimes. For more detailed information, including what to do in various scenarios the guidelines can be found at the above Web address.

Related Documents:

Booking Bloods and Urine Test UHL Obstetric Guideline
Syphilis in Pregnancy UHL Obstetric Guideline
Hepatitis C Screening in Pregnancy UHL Obstetric Guideline
Hepatitis B Screening in Pregnancy UHL Obstetric Guideline
HIV Infection in Childhood UHL Childrens Medical Guideline
HIV Post Exposure Prophylaxis After Sexual Exposure (PEPSE) UHL Emergency Department Guideline
Infection Prevention UHL Policy

Background:

There was an estimated 30/700 women living with HIV in the UK in 2017[1]. The introduction of combined antiretroviral therapy (cART) in people living with HIV has led to them living longer in good health, with the possibility of pregnancy and very low risk of vertical transmission.

Routine antenatal testing of pregnant women and people for HIV was implemented in the whole of the UK in 2002, as part of routine antenatal care, to introduce interventions that not only prevent vertical transmission/perinatally acquired HIV but also improve maternal health. National uptake of routine antenatal screening has exceeded 97% by 2011. [2, 3]

In the UK, over 85% of pregnant women and people living with HIV are now already diagnosed by the time of conception, and about 50% of pregnant women and people were having a second or subsequent baby since their HIV diagnosis. The proportion of women and people conceiving on antiretroviral therapy is currently 60%. [2, 3]
Between 2012 and 2014 in the UK, there were just 7 vertical transmission/perinatally acquired HIV among nearly 3,300 babies born to diagnosed women living with HIV, corresponding to vertical transmission/perinatally acquired HIV rate of 0.27%. Among nearly 90% of HIV positive women delivering with undetectable viral load, the vertical transmission/perinatally acquired HIV rate was 0.14%. [2, 3]

As a result of the high rate of viral suppression, nearly half of all HIV positive women now deliver vaginally. [1, 2, 3]

Untreated HIV infection in pregnant women and people results in HIV transmission to approximately 15-26% of infants. Vertical transmission of HIV can be easily reduced to <1% by a combination of the following interventions:

- Antenatal diagnosis of HIV
- Effective maternal combined antiretroviral therapy (cART) to suppress HIV Viral Load (VL)
- Pre-Labour Caesarean Section (PLCS) at 38-39 weeks gestation or safe vaginal delivery
- Intravenous (IV) antiretroviral therapy to mother during delivery (only if HIV VL not optimally suppressed)
- Oral or IV antiretroviral prophylaxis to the baby for 2-4 weeks depending on level of risk of HIV transmission
- Complete avoidance of breastfeeding
- Supported Formula feeding should be advised but if the woman or birthing person wishes to breastfeed and meets certain criteria please refer to - and follow – BHIVA guidelines available at: BHIVA guidelines for the management of HIV in pregnancy and postpartum 2018 (2020 third interim update)

2. Screening for HIV in pregnant women & people

2.1 Routine screening;

All pregnant women and people should be offered screening for HIV infection by their midwife, this should ideally be at booking, but can be at any time during pregnancy after pre-test counselling.
This test should be considered an opt-out test, rather than an opt-in test.

The National Guidelines recommend routine prenatal HIV screening in the first trimester of pregnancy.
If screening is accepted, this must be documented within the Maternity health Records by the Community Midwife and the sample taken and sent to the Laboratory.
NB: For details of performing the screening test and the management of rejected samples please refer to the Booking Bloods and Urine Test UHL Obstetric Guideline.

For pregnant women and people who declined screening;

They should be informed that they will be contacted by a specialist midwife at around 20 weeks to re-offer HIV screening.
All pregnant women and people who decline screening should have a form completed with documentation of their choice and submitted to the Lab. This should be documented in the maternity health record.
If screening is further declined, the reason should be documented in the Maternity Health records.

Repeat screen;

Consider offering repeat screening during pregnancy if test negative in 1st trimester, to exclude seroconversion, in those who fit the high-risk categories defined below and have a continuing risk exposure.

- Known IV drug users, or whose partner is an IV drug user
- Pregnant women and people or their sexual partners who have lived in areas of the world where HIV is endemic:
    - Sub-Saharan Africa
    - The Far East
    - South East Asia
- Pregnant women and people who have had treatment abroad from a high prevalence area
- A blood transfusion abroad or pre 1985
- Pregnant women and people who know or suspect that their partner is at risk of being exposed to HIV.
    - If the partner is living with HIV, an individualised plan of care for both the pregnant woman or person and neonate will be documented.

This must be documented in the electronic Maternity Health Care records.

Rapid or near-patient testing

Rapid or near-patient testing should be offered to pregnant women and people who arrive in labour unbooked or where a rapid diagnosis will affect the immediate management of that patient. A reactive result should be acted upon immediately (see appendix C).

Rapid HIV testing kits are available on delivery suite and MAU. Midwives can perform the test by following the instructions provided within the packs. If further information is required please contact the GUM doctor on call.

How to test for HIV

HIV testing kits that are currently recommended for use in pregnant women and people are the fourth generation HIV antibody assays as they will test for both HIV antibody & antigen. This testing method, besides reducing the diagnostic window period to 45 days (compared to the 3 month window) has excellent sensitivity (99.8 -100%) and specificity (99.5-99.9%).
Furthermore there is now a fourth generation rapid HIV test also available and this can give a result in 20 minutes from a finger prick test. This has obvious implications for the pregnant woman or person who arrives in labour having never booked, especially those deemed at high risk of HIV. (See Rapid Testing Protocol- APPENDIX B)

A confirmatory blood sample must be sent to virology marked as urgent for HIV testing and screening for Hep B, Syphilis. A formal plan made to follow up the results and inform the pregnant woman or person.

Screening test review

All screening tests for HIV in pregnancy must be reviewed by a qualified member of staff, communicated to the pregnant woman or person and documented in the hand held notes within 5 days of receiving the result from the laboratory.

Negative results for HIV

- The Community Midwife, Hospital Midwife or Obstetrician who sees the pregnant woman or person at the next antenatal visit following screening, should check that the results of the HIV screening test are available, communicate the result to the pregnant woman or person and document the result in the Maternity Health record. Ideally, the pregnant woman or person should receive the negative results between 14 and 18 weeks gestation.

- If the result is missing or not available, the Health Professional should check where the result is, and as a last resort repeat the screening test marking it as an urgent sample in the relevant section on the form.

- If the result is inconclusive, the screening test should be repeated and discussed with the virologist

- If the result is negative but the pregnant woman or person is from the “high risk” group listed previously repeat screening should be offered at 20 weeks.

Positive results for HIV

- Positive results are telephoned, faxed and a hard copy sent directly to the Midwife Specialist for Blood Borne Infections from the screening Laboratory.

- The Midwife Specialist for Blood Borne Infections will contact the pregnant woman or person and arrange an appointment to give them the result within 5 working days and arrange further blood tests. The result will be documented in the maternity records.

- Referrals will be made to the multi-disciplinary team (BBI Clinic) who will be responsible for the ongoing management of the pregnancy.

- All notes of pregnant women or people with a positive result will have an alert sticker on the front cover of the hospital notes.

- All pregnant women or people with a positive result will have an HIV Care Plan completed and this is filed in the health record.

- Women or people with a new positive result who do not have an on-going pregnancy should still be seen by the specialist midwife and their results given and appropriate follow up arranged in the adult HIV service.

- If the partner is known to be living with HIV but the pregnant woman or person is seronegative, a referral to the Specialist Midwives may be considered.

3. Antenatal care of women who are HIV positive [2,3]

3.1 Psychosocial Issues

An early assessment of a pregnant woman or person’s psychosocial circumstances is essential when they are diagnosed with HIV on antenatal screening.

HIV diagnosis during pregnancy may be a profoundly shocking and life-changing event for the newly diagnosed HIV-positive pregnant woman or person. There may be a complex mix of emotional, psychosocial, relationship, economic and even legal issues that arise directly out of the HIV diagnosis.
The newly diagnosed pregnant woman or person has a relatively brief time to make appropriate informed decisions that affect their own long term health and that of their unborn child and their partner.
In all cases support from the multidisciplinary team is crucial.

3.2 Confidentiality

Pregnant women or people receiving antenatal care need to be reassured that their confidentiality will be maintained and while disclosing results to

spouse/partner and testing previous children should be encouraged it can be delayed till they are ready.

Confidentiality can be an issue. It is important that the pregnant woman or person at all times is reassured this will be maintained. All HIV positive pregnant women and people should be encouraged to disclose their status to their partner /spouse and be involved in decision making. Often stigma and relationship concerns that remain fairly constant over time have been reported in this group, further limiting access to social support avenues within family networks and relying heavily on hospital or voluntary services.

Both clinical and non-clinical staff MUST MAINTAIN THE STRICTEST CONFIDENTIALITY. Notes must not be marked externally in any way that could identify the patient as living with HIV.

3.3 Antiretroviral Therapy and Reducing Transmission of HIV in pregnancy

Discuss interventions that will prevent vertical transmission/perinatally acquired HIV**, include cART Combination Antiretroviral Therapy), mode of delivery and infant feeding choices**.

The risk of vertical transmission in undiagnosed/untreated pregnant women and people is between 15% - 20% in developed countries and 40% in resource poor countries. However, in pregnant women and people on HAART there are very low vertical transmission rates – reducing from an estimated 0.57% in 2007 to 0.14% in 2016 in UK pregnant women and people on cART with viral load less than 50 copies/ml. As a result of high rate of viral suppression on cART, many pregnant women and people living with HIV have the option to deliver vaginally. Suppressive maternal cART significantly reduces, but does not eliminate, the risk of vertical transmission of HIV through breastfeeding.

The result of various studies done in low and middle income countries have shown the overall postnatal risk of HIV transmission via breast milk when pregnant women and people are treated with cART has been reported between 0.3%-1% at 6 months and between 0.6%-2.93% at 12 months.

All pregnant women and people living with HIV should be advised to take cART by week 24 of pregnancy, and be advised to continue lifelong treatment.

Scenario 1: Known women or person living with HIV not on cART (Combination Antiretroviral Therapy) is now pregnant.

Ideally all women and people who desire pregnancy should have had pre-conceptual counselling to optimise their health status prior to pregnancy.

Pregnant women and people living with HIV should be booked under Blood Borne Infection Clinic [BBI] at the LRI and the referral sent for the attention of the HIV Specialist Midwives.

All pregnant women and people not on cART should commence cART:

- As soon as they are able to do so in the second trimester where the baseline viral load ≤30,000 HIV RNA copies/mL

- At the start of the second trimester, or as soon as possible thereafter, in pregnant women and people with a baseline viral load of 30,000 – 100,000 HIV RNA copies/mL
- Within the first trimester of viral load >100,000 HIV RNA copies/mL and/or CD4 cell count is less than 200 cells/mm3

All pregnant women and people should have commenced cART by week 24 of pregnancy.

Scenario 2: Known HIV positive pregnant woman and or person **on cART is now pregnant.**

It is recommended that pregnant women and people conceiving on an effective cART regime should continue this treatment. Exceptions are: non-standard regimes, for example protease inhibitor (PI) monotherapy: regimens that have been demonstrated to show lower pharmacokinetics in pregnancy such as Darunavir/Cobicistat, or where there is an absence of pharmacokinetic data such as Ralegravir 1200mg once daily (od) should be administered 400 mg twice a day. These should be modified to include (depending on tolerability, resistance and prior antiretroviral history, one or more agents that cross the placenta. A pregnant woman or person conceiving on Dolutegravir should see their physician as soon as possible to discuss current evidence on neural tube defect.

3.4 Plan of Care

Care is carried out in the Blood Borne Infection clinic at the LRI, and is a consultant led service. Every woman or person will be managed by the MDT.

The antenatal care of a pregnant woman or person living with HIV needs to be managed by a multidisciplinary team. Protocols should ensure there is designated responsibility for follow up and further care. The patient should be made aware of the interventions with due explanations provided.

Pregnant women and people living with HIV will have their care provided by a MDT comprising Community Midwives, Midwife Specialist for Blood Borne Infection, Pharmacist, Children's HIV/Hepatitis Specialist Nurse, Consultant Obstetricians and Consultants in GUM / Infectious Diseases.

Close liaison between all members of this team will help to improve the quality of care. In Leicester the management of such cases are discussed in monthly Maternal Sexual Health MDT meetings.

All pregnant women and people living with HIV have an antiretroviral care plan.
The Perinatal Retroviral care plan (see Appendix A) has been designed for use by all members of this team providing care to document all relevant aspects of care.

The Midwife Specialist for Blood Borne Infections should commence this care plan, with the consent of the patient.

This care plan is amended throughout pregnancy, to provide up to date information. This care plan will be kept in the Hand-Held Notes with the consent of the patient (if consent declined this will be kept in the Maternity Notes).

The presence of the Perinatal Retrovirus Infection Care Plan should be checked at each antenatal visit. If the Care Plan is missing the Midwife Specialist for Blood Borne Infections should be contacted on 0116 258 5990.
The Midwife Specialist for Blood Borne Infections will copy the Care Plan for the Maternity Notes at the 34-week visit, and will check an up to date copy of the Care Plan is available in the Maternity Notes at 37 weeks.

3.5 Evaluation and Monitoring:

As with any patient all the routine tests of pregnancy booking should be completed. HIV specific investigations and monitoring should be carried out.
Baseline tests evaluating maternal health, blood count, renal and liver function tests are routine and are regularly repeated especially on commencement of HAART to check for drug toxicity.

Full blood count is useful to evaluate anaemia in pregnant women and people taking zidovudine.
Additional bloods should include Syphilis, Hepatitis A, B, C, Varicella zoster, CMV IgG and Toxoplasma IgG serology.

CD4 cell count may be considered on individual patients. HIV RNA plasma load should be checked every trimester and at 36 weeks gestation.

Genotypic Resistance testing is recommended at diagnosis and in pregnant women and people demonstrating suboptimal viral suppression on treatment. Therapeutic Drug Monitoring may be useful in specific cases due to altered drug pharmacokinetics in pregnancy. HLAB5701 testing to detect pregnant women and people predisposed to Abacavir hypersensitivity should be requested if not known.

3.6 Glucose tolerance test

Offer a Glucose Tolerance Test (GTT) to all pregnant women and people living with HIV at 28 weeks.
There is an association with antiretrovirals and impaired glucose tolerance. Earlier testing could be considered for obese women, those of advanced maternal age, those on Protease Inhibitor therapy or those with a family history of diabetes.

3.7 Sexual health screening

Sexual Health screening for genital infections is recommended at booking and should be repeated at 28 weeks.

Though the diagnosis and treatment of genital infections in a pregnant woman or person has benefits, currently there is no evidence to suggest that treatment has a direct impact in reducing vertical transmission of HIV. However, some observational studies suggest an association between infection, prolonged rupture of membranes, preterm

labour and transmission.[6] In addition, treatment of chlamydial and gonococcal cervicitis has been shown to reduce HIV1 RNA mucosal shedding.[7]
Therefore screening pregnant women and people for STI's is recommended at booking and at 28 weeks gestation.

3.8 Ultrasound scanning

No increased frequency of scanning is indicated; therefore follow National Guidelines on Fetal Assessment by Ultrasound.

3.9 Congenital malformations:

The Antiretroviral Pregnancy Registry (www.apregistry.com) collects observational information on antiretroviral exposure during pregnancy to assess anomalies after cART exposure.

As at January 2018, there is no signal of increased risk of congenital malformations compared with the general population, for commonly used antertrovirals (abacavir, lamivudine, emtricitabine, lopinavir, nevirapine, ritonavit, Tenofovir DF, zidovudine, daranuvir, efavienz, indinavir, raltegravir, and rilpivirine

For newer agents (cobicistat, dolutegravir, elvitegravir, and Tenofovir alafenamide) and a number of less commonly prescribed older compounds (saquinavir, fosamprevir, enfuvirtide, tipranvir, maraviroc and etavirine) there have been insufficient data to exclude such risk.

A preliminary unscheduled analysis of an ongoing birth surveillance study in Botswana has reported an increased risk of neural tube defects (NTD) among infants of women who become pregnant while taking dolutegravir-based regimens compared to women on non-dolutegravir based regimen. The study reported four cases of neural tube defects out of 426 infants born to women who were on dolutegravir-based regimens at the time of conception. The reported rate was approximately 0.9% compared to a 0.1% rate of NTDs among infants born to women taking non-dolutegravir-based regimens at the time of conception.

Further analysis of prospective surveillance data on 1683 women from the Tsepamo study in Botswana indicated that these women were on dolutegravir-based ART regimens at the time of conception and five neural tube defects were reported (0.3%). This compares to a rate of NTDs of 0.1% in women who conceived on non-DTG-containing ART, and 0.04% in those taking efavirenz-containing regimens at the time of conception. The greater number of conceptions on DTG in this analysis provides a more precise estimate with narrower confidence intervals (95% CI 0.06–067) than the initial data, and shows a smaller difference in incidence of NTDs between exposure to DTG at conception and exposure to other ART.

Two other studies reported NTD rates in infants exposed to DTG at conception. An NTD surveillance study, also conducted in Botswana, reported an NTD rate of 0.66% in 152 DTG-exposed pregnancies and a retrospective analysis from Brazil reported no NTDs among infants born to 382 women who conceived on DTG ; the overall rate of NTDs in Brazil is <0.06%. Furthermore, the most recent update from the Antiretroviral Pregnancy Registry (APR) showed that among 248 DTG exposures at conception there was one NTD giving a prevalence of 0.40%. However, this estimate is based on a single NTD among a relatively small number of exposures.

The incidence of NTDs varies between countries and not all countries have introduced folic acid fortification.

Based on these findings BHIVA makes the following recommendations:[12]

- All women and people wishing to conceive should be given appropriate preconception advice and commenced on a high dose of folic acid (5 mg daily) regardless of their combination (c)ART regimen;

- Women and people should be informed of all available information regarding ART and conception, and be supported to make an informed choice.

3.10 For a woman on DTG wishing to conceive

a. Pregnant women and people should be fully informed that the prevalence of NTDs is higher following DTG exposure at conception than with other types of ART at conception (equating to 3 per 1000 births vs 1 per 1000 births).

b. The best safety data for pregnancy are for efavirenz or atazanavir/ritonavir (ATV/r) as per the BHIVA guidelines on the management of HIV in pregnancy and postpartum 2018.

c. A woman or person choosing to continue DTG while planning to conceive will be supported in this decision and advised to commence or continue folic acid 5 mg daily until closure of the neural tube.

3.11 For a woman or person on DTG not planning children but of child-bearing age

a. People living with HIV should have access to accurate information about the full range of contraceptive and pregnancy choices.

b. While on DTG, the same considerations for contraceptive choice should be made as for other ART with additional information provided on the potential additional risk of NTD.

3.12 For a woman or person on DTG who becomes or is pregnant

a. We acknowledge that the neural tube has closed within 6 weeks of conception. If DTG is the best ART choice for the woman or person, the NTD risk of 0.3% should be discussed and if a woman or person accepts this risk then DTG can be continued in pregnancy.

b. A pregnant woman or person who presents in pregnancy more than 6 weeks after conception should continue their current regimen unless there are other reasons to consider switching.

c. If the pregnant woman or person chooses to switch, use a regimen on which there are more safety data in pregnancy, such as efavirenz or ATV/r as per the BHIVA guidelines on the management of HIV in pregnancy and postpartum 2018.

d. Detailed anomaly scans should be performed as per national pregnancy guidelines with no additional scans required.

3.13 For a pregnant woman or person not yet on cART

The recommendations of Section 6.3 of the BHIVA guidelines on the management of HIV in pregnancy and postpartum 2018 remain applicable (2020 Interim Update)

3.14 Invasive testing

In relation to invasive testing all pregnant women or people should be counselled with regard to the potential increased risk of transmission, and where possible the procedure should be delayed until the HIV viral load is undetectable.

Invasive testing & Amniocentesis for genetic testing.

For pregnant women and people not on treatment with a detectable viral load seek advice from the GUM/Infectious Disease physician.

- All HIV positive pregnant women and people prior to invasive testing should be screened for Hep B, Hep C.
- Aim to achieve an undetectable maternal viral load with HAART and consider delaying the procedure if possible until this is achieved.
- The need for a test should be discussed with a GUM/ID physician. Consider commencing maternal HAART (2 weeks prior to procedure) if ARV naïve to provide cover during the procedure. Consider using a drug or adding one that crosses the placenta like Nevirapine, Zidovudine or Raltegravir.
- The risk of transmission is less with an amniocentesis when compared with a Chorionic Villus sample. Avoid inserting the needle through the placenta during the procedure.

3.15 Complications in pregnancy

While the medical complications in pregnancy need to be managed as in HIV negative women and people, the adverse effects of HAART always need to be considered necessitating the need for close liaison between the Obstetric and the HIV team.

Some medical complications may play an important role and increase the risk of vertical transmission/perinatally acquired HIV in HIV positive pregnant women and people. Hence, recognition and management of these conditions is an important element of antenatal care.

Nausea and vomiting

In pregnant women and people presenting with intractable vomiting, while symptoms may suggest hyperemesis gravidarum (leading to fluid and electrolyte disturbances and nutritional deficiency) and requiring implementation of supportive treatment, consideration of conditions like lactic acidosis, pancreatitis and hepatitis presenting with

these symptoms will be necessary in these patients. Temporary cessation of ARV treatment may also become necessary in some of these cases (seek MDT advice prior to stopping any ARVs during pregnancy).

Thromboembolism

Thromboembolism remains a considerable concern in pregnant women and people living with HIV. Consider anti-thromboembolic prophylaxis if a pregnant woman or person living with HIV requires hospitalisation.

Abnormal Liver Function tests

In addition to pregnancy related conditions like pre-eclampsia, obstetric cholestasis, HELLP (Haemolysis, elevated liver enzymes and low platelets) syndrome and acute fatty liver of pregnancy that may cause transaminase abnormalities, conditions like hepatitis, pancreatitis and lactic acidosis need to be excluded. Unconjugated hyperbilirubinaemia (Atazanavir related side effect) is also well recognised. Hepatic abnormalities occurring as a drug related (PI) effect have also been reported in pregnant pregnant women and people.[8]

Lactic Acidosis

These cases need to be managed with clear liaison with the GUM/ID physicians.
Lactic acidosis is rarely encountered in developed countries as it was usually seen in people taking DDI (Didanosine) or d4T (Stavudine). A high index of suspicion is required as is a need for close monitoring when on these drug regimens, as the condition can be fatal.
Please note that these drugs are no longer the standard care in most countries in the developed world, but may be used in treatment regimens in the developing world. The presenting symptoms of lactic acidosis are non-specific in most cases, manifesting with elevated hepatic transaminases, gastrointestinal disturbances, fatigue, low grade fever and occasionally breathlessness. Monitoring lactic acid levels (normal range 2–4.9 mmol/L) is necessary as treatment interruption may have to be considered in some cases if suspected (>45mmol)

Infections

Consider opportunistic infections in acutely ill pregnant women and people especially those with low CD4 counts and additionally the possibility of Immune reconstitution inflammatory syndrome (IRIS) in those recently commenced on HAART.
Associated with a low CD4 count, in general the presentation and management of these patients is similar as in a non-pregnant state.

Co-infection with Hepatitis B and/or C

All pregnant women and people living with HIV should be screened for Hepatitis A,B,C. Those pregnant women and people with co-infection should have input from the appropriate specialist clinician experienced in managing these infections.

Pregnant women and people with chronic hepatitis B or C should be referred to Health Care Professionals with experience in the treatment of these infections.
There are separate local guidelines for how these infections should be managed with regard to the pregnancy itself, mode of delivery and vaccination etc. of the neonate. Please see local guidelines/templates for detailed guidance.

4. Delivery plan for pregnant women and people who are HIV positive.

4.1 Plan for delivery

A management plan for delivery should be documented by 36 weeks in the Perinatal Retrovirus Infection Care Plan.

Mode of delivery

The MDT will discuss details of the mode of delivery with the patient between 34 to 36 weeks and document the plans. This will be determined by the pre delivery viral loads as vaginal delivery will be offered to pregnant women and people on HAART with undetectable levels.
The Obstetric Pharmacist will pre-assess the patient at between 34-36 weeks to write the drug chart in preparation for delivery. This will then be signed by the lead Consultant or a Fetal Medicine Specialist Registrar.

At 39-40 weeks gestational pregnant women and people who are HIV positive will be offered a repeat viral load review to enable optimal birth planning.

- **Undetectable viral load, less than 50 copies per ml**

Pregnant women and people on HAART with a viral load less than 50 copies per ml should be offered vaginal delivery unless there are other medical or obstetric reasons not to.

Pregnant women and people who have undetectable viral loads, less than 50 copies per ml, will usually be offered the option of vaginal delivery. The Perinatal Retrovirus Infection Care Plan will record the chosen method of delivery.
Trial of scar may be justified in a pregnant woman or person with a single previous Caesarean Section who is currently on HAART and who has an undetectable virus and spontaneously goes into labour. They should be counselled regarding the risk of scar dehiscence and the possibility of vertical transmission as a result.

- **Plasma viral load of 50-399 copies per ml at 36 weeks**

For pregnant women and people with a plasma viral load of 50-399 copies per ml at 36 weeks, an elective caesarean section at 38 weeks should be considered, taking into account the actual viral load, the trajectory of the viral load, length of time of treatment, adherence issues, obstetric factors and the pregnant woman or person's views.

- **Elective Caesarean Section at 38 weeks should be planned for a woman with a viral load > 400 copies per ml at the end of pregnancy.**

Pregnant women and people living with HIV who have viral loads > 400 copies per ml at the end of pregnancy are usually advised that delivery by elective caesarean section at 38 weeks is the method most likely to reduce vertical transmission of the HIV virus.

Pregnant women and people who have a viral load less than 50 copies, but have been on zidovudine monotherapy, and have an obstetric indication for caesarean section, should be planned for elective caesarean section at 39 weeks.
Pregnant women and people who are Hep C positive and on suppressive ART can be recommended for a vaginal delivery.

- **Viral load >1000 copies/ml or unknown viral load**

Intrapartum intravenous Zidovudine infusion is recommended for pregnant women and people with a viral load >1000 copies/ml or unknown viral load, who present in labour or with SROM or who are admitted for planned elective caesarean section.

The use of intrapartum Zidovudine can also be considered in pregnant women and people on ART with plasma viral load between 50-1000 copies/ml.

This should be started when birthing women and people present in labour or at least 4 hours prior to planned caesarean section and continue until the cord is clamped. DO NOT DISCONTINUE any antiretroviral medication. See Appendix B for dosing regimen.

4.2 Preterm delivery

All pregnant women and people should be advised about the increased risks of preterm delivery (one and a half times) possibly HAART related.

Some cohort studies consistently report an increased risk of preterm delivery, especially in pregnant women and people on Protease Inhibitor (PI) containing HAART regimens (14.1%) than in those on mono/dual treatment.[13] This association is more marked in premature births of less than 32 weeks gestation. This observation, however, is not reported by other groups, the increased risk currently remaining unexplained.

Give corticosteroids for threatened pre-term delivery as per guidelines.

Consider maternal single-dose nevirapine (NVP) in threatened pre-term delivery to load the baby who may not be able to take oral medication and also consider Intravenous zidovudine therapy.

4.3 Preterm labour

PPROM (Premature Preterm Rupture of Membranes) is associated with 40% of pre-term deliveries and can result in significant neonatal morbidity and mortality in the general population. In the absence of chorioamnionitis, in most cases management is usually expectant and delivery is considered at 34 weeks with a small risk of preterm delivery and neonatal morbidity and mortality.

Most of the current recommendations are based on good clinical practice as there is no evidence base to guide decision making.

All the existing data on risks of HIV transmission are from the pre-HAART era when prolonged rupture of membranes and chorioamnionitis was associated with an increased risk of vertical transmission/perinatally acquired HIV.[15]
A meta-analysis of studies conducted before HAART use in pregnancy has demonstrated a 2% incremental increase in transmission risk for every hour of ruptured membranes up to 24 hrs. A recent Spanish study conducted in 500 women living with HIV has found that rupture of membranes for greater than 6 hours was associated with a threefold increase in transmission risk in women not on HAART with no increased risk observed in women on HAART.[16]

The management of threatened cases of premature rupture is no different from that of HIV-negative pregnant women and people, with pregnant women and people at presentation being offered a vaginal swab for bacteriology and two doses of intramuscular Dexamethasone (12mgms) 12hrs apart to encourage fetal pulmonary maturation.

Communication between team members (Obstetricians, GUM/ID Physicians and Neonatologists) is essential and mode and timing of delivery should be planned and documented. The decision to deliver will balance HIV transmission risk with foetal age and size and neonatal facilities.

4.4 Where PPROM occurs before 34 weeks

A multidisciplinary team discussion including the senior obstetrician, HIV physician and neonatal team should be clearly documented.

Consider the option of prolonging the pregnancy taking into account factors like the mother's virological status and level of viraemia, presence or absence of maternal HAART and pregnancy or HIV-related co-morbidities. As discussed earlier, starting steroids immediately, excluding genital infections, commencing Erythromycin and having a low threshold for intravenous broad-spectrum antibiotic use like Cephalosporins and Metronidazole will be necessary. (please refer to Antimicrobial summary Maternity & Gynaecology)

Once two doses of steroids have been administered, the decision of whether to perform an emergency Caesarean section at 34 weeks can be taken. The timing of this procedure will involve balancing the risk of vertical transmission of HIV-1 with the risks of severe prematurity (<30/40).

At <30 weeks this balance may favour proceeding to an emergency Caesarean section once two doses of steroids have been administered, after discussion with the GUM/ID physician, obstetric consultant and Neonatologist. The pregnant woman or person should be counselled regarding the implications of a preterm caesarean section (in particular the possibility of classical caesarean section) and the risk of neonatal morbidity and mortality.

Attempt to optimize the pregnant woman or person's HAART regimen to reduce the risk of vertical transmission of HIV. Maternal single-dose Nevirapine (NVP) should be strongly considered, even in scenarios where the possibility of the presence of NVP associated resistance exists. Nevirapine, if given 2 hours before delivery achieves highly effective transplacental transfer levels and the ability to provide prolonged drug plasma concentrations lasting up to 7 days in a neonate that may be unable to have oral

medication. Maternal HAART must be continued regardless of your plan, if the woman or person has detectable plasma viraemia at presentation. Consider intravenous Zidovudine as well.

Delivery may have to be expedited if there is evidence of chorioamnionitis or fetal distress. However, further management should be guided by an assessment of the risks associated with prematurity, HIV transmission, availability of neonatal facilities and maternal health.

4.5 Where PPROM occurs after 34 weeks

Regardless of maternal viral load and therapy consider delivery of the baby after ensuring fetal lung maturity has been achieved.

Expedited delivery for pre-labour rupture of membranes >36 weeks (PROM).

Please also refer to the Pre labour rupture of membranes (sharepoint.com) for further guidance.

4.6 Where PROM occurs at term

Management is determined by the pre-delivery plan for the patient. If a vaginal delivery is planned and undetectable maternal viraemia has been achieved, expedite delivery with induction of labour[17] to avoid the possible increased risk of transmission with prolonged rupture of membranes.

If a caesarean section is planned and detectable maternal HIV virus or other pregnancy related issues occur, early delivery by Caesarean section is recommended. In some cases, in spite of a planned caesarean section, vaginal delivery may become imminent, so consider nevirapine loading and antibiotics as described above.

4.7 Prolonged Pregnancy

The management of prolonged pregnancy in pregnant women and people living with HIV and the decision regarding induction has to be individualised to each patient and made in conjunction with the BBI team. Data from pre-HAART era has not found an association of artificial rupture of membranes (ARM) with increased risk of vertical transmission of HIV. Therefore, if the aim is a vaginal delivery, induction of labour can be carried out as per the IOL guideline provided the maternal viral load is undetectable. There are no contraindications for a membrane sweep or use of prostaglandins.

4.8 Breech

External cephalic version can be performed in pregnant women and people with VL <50 copies per ml at 36 weeks if there are no obstetric contraindications.

5. Intrapartum management of birthing women and people living with HIV(2,3,18)

5.1 Spontaneous Labour

Labour should be managed as for birthing women and people without HIV, apart from the following recommendation below;

If zidovudine is required for a vaginal delivery, commence the infusion and maintain it until after delivery and the cord is clamped.

Do not stop the mother's regular oral HIV treatment during labour and delivery.

If there is no neonatal plan consider repeating bloods for viral load on admission in labour.
Seek advice from the Specialist Team with regard to repeating viral load in labour, individualise for those who have commenced ARV in pregnancy (BHIVA 2020).

5.2 Active management of labour

Management of labour should be active.
Labour should be managed as for birthing women and people without HIV (four hourly assessments).

Artificial rupture of membranes can be performed as clinically indicated. Birthing women and people admitted with Pre-labour Rupture of Membranes should be augmented as soon as practically possible, and must not be deferred until the following day.

If risk of chorioamnionitis / puerperal sepsis then antibiotics should be commenced irrespective of the mode of delivery planned.
Intravenous antibiotics should be commenced to prevent if there is clinical suspicion such as raised maternal temperature, as per antimicrobial guidelines

5.3 Elective and Emergency Caesarean Section.

Admit to Delivery Suite on the morning of the caesarean.
Admission as for any other elective caesarean section except:

- Consult Perinatal HIV Infection Care Plan for drug regimen.
- Neonatal drug regimen on Perinatal Retrovirus Infection Care Plan and Pro-forma.

If possible Zidovudine Infusion should be commenced at least 4 hours before caesarean.
If required Zidovudine infusion will need to be commenced *at minimum* 4 hours before caesarean (unless obstetric emergency) and continued until the cord is clamped at delivery (anaesthetist to stop infusion). Check the Delivery Suite drug fridge for ready-prepared Zidovudine infusion. If not available prepare infusion following instructions on the Zidovudine chart. If no pre-written drug chart is available calculate the dose of zidovudine using the zidovudine regimen chart (Appendix B). Blank charts are stored on delivery suite.

Routine antibiotic prophylaxis should be given as is routine practice for all Caesarean Sections.

It is not necessary for a paediatrician to be present for delivery if there are no other obstetric risk factors present.

6. Care of the Newborn

The baby will require oral zidovudine/other antiretrovirals as soon as possible after birth but definitely within 4 hours of birth.

- Refer to Perinatal HIV Infection Care Plan and Neonatal Pro-forma.
- Bleep Obstetric Pharmacist if advice is required.
- Bleep Neonatal SHO, once the baby has been weighed who will come to Delivery Suite/Theatre to calculate the dose of Zidovudine/other anti-retrovirals.
- Routine administration of Vitamin K (with parental consent)
- Ensure the baby is kept warm and fed within 1 hour of birth.

Clean the baby following birth in a warm bath.

Cleaning the baby in Theatre/Delivery Suite with a warm bath to remove all bodily fluids is a logical step to help reduce transmission, although the baby should be immediately wrapped in pre-warmed blankets and hat afterwards to prevent further heat loss. (The baby bath should be cleaned adequately afterwards with sodium hypochlorite following infection control procedures, dried thoroughly and stored upside down)

7. Birthing women and people living with HIV who present for the first time in labour

Birthing women and people living with HIV who present for the first time in labour should be aimed to be delivered by Caesarean section if at all possible, ideally 2 hours post Nevirapine dose.

7.1 Birthing women and people living with HIV not on HAART presenting in Labour.

These patients may be diagnosed by a rapid test in labour or may present to the unit and divulge their status. Clearly they will have a detectable viral load and therefore if possible emergency caesarean section is the delivery mode of choice.

HAART in the mother should be commenced as soon as possible based on expert advice, following the taking of baseline bloods. All birthing w**omen** and people **should have a single dose of Nevirapine, unless already incorporated into their HAART regime.**

Baseline bloods as described in section 3 should be taken and HAART should be commenced with agents that pass through the placenta e.g. Nevaripine, Zidovudine, Raltegravir. Nevirapine can also additionally be given as a single dose. Intravenous zidovudine as described above should be commenced.
If not about to deliver, emergency caesarean section should be performed at least 2 hours post Nevirapine dose.[3]

8. Postnatal management of women & people living with HIV [2,3]

The postpartum care of women and people living with HIV is similar to that for uninfected patients though they may be at increased risk of postpartum complications like wound infections etc.
Additionally, postpartum women and people living with HIV will be offered a postnatal follow-up with their specialist team between 4-6 weeks postpartum.

Mental health issues are common in the context of HIV and pregnancy. All postnatal women and people should be assessed. If there are concerns about postnatal depression, they should be referred to appropriate services in the Trust, community and/or voluntary groups without delay.

Ovulation usually resumes at 6 weeks postpartum but may occur earlier in non-breastfeeding postnatal women and people. A plan for contraception postnatally should have been discussed in advance of delivery and revisited in the early postpartum period and at the 4 to 6 week follow-up. It is important to try to accommodate both the contraceptive and ART preferences. There are multiple ART agents available which do not interact with systemic oestrogens and/or progestogens such as all NRTIs, Raltegravir, Dolutegravir, Rilpivirine and maraviroc. ART may be changed to optimise a woman or person's contraception choice as long as the ART prescribed is fully active against the viral genotype.
A full guide to drug– drug interactions between ART and hormonal contraceptives is available at Liverpool HIV Interactions (hiv-druginteractions.org)

8.1 Infant feeding

Mother's living with HIV in the UK should feed their babies with formula milk, to eliminate the risk of postnatal transmission.

Suppressive maternal cART significantly reduces, but does not eliminate, the risk of vertical transmission of HIV through breastfeeding.

The result of various studies done in low and middle income countries have shown the overall postnatal risk of HIV transmission via breast milk when women and people are treated with cART has been reported between 0.3%-1% at 6 months and between 0.6%-2.93% at 12 months.

In the UK and other high-income settings, the safest way to feed infants born to women and people living with HIV is with formula milk, as there is on-going risk of HIV exposure after birth. Therefore, the recommendation is still that women and people living with HIV feed their babies with formula milk.

It is crucial to note that not breastfeeding can come at an emotional, financial and social cost to women and people living with HIV, therefore, it is important that they receive appropriate support which may include peer support, psychological and practical support, and financial support for formula feeding.

It is important to discuss infant feeding intention early in pregnancy so that appropriate information and support can be provided.

Women and people who are virologically suppressed on cART with good adherence and who choose to breastfeed should be supported to do so, but should be informed about the low risk of transmission of HIV through breastfeeding in this situation and the requirement for extra maternal and infant clinical monitoring.

If mothers choose to breastfeed then it should be breast milk only and babies shouldn't receive any other food or drink.
Mixed feeding (giving breast milk and formula milk) is NOT recommended as this may irritate the baby's gut and increase the risk of HIV infection and should therefore be absolutely avoided.
Further information can be found on YourHealth in the Choosing to breast feed your baby when HIV positive patient information leaflet.

Those who choose to breastfeed should be advised of the small on-going risk of HIV transmission.

They should be supported in their decision, if they fulfil the following criteria:

- A fully suppressed HIV viral load (for as long a period as possible but certainly during the last trimester of pregnancy)
- A good adherence history
- Strong engagement with the BBI pregnancy MDT
- **A breastfeeding woman or person should have HIV viral load checked every 4 weeks as long as they are breastfeeding.**
- They should be prepared to attend for monthly clinic to review blood HIV viral load tests for themselves and their infant during and for 2 months after stopping breastfeeding.

8.2 Infant Post-exposure prophylaxis (PEP):

All neonates need oral antiretroviral medication (usually oral Zidovudine), staring within 4 hours of delivery.

Length of infant PEP has been stratified according to risk of vertical transmission being VERY LOW, LOW or HIGH according to maternal viral load and ART, PEP has been shortened to 14 days of oral Zidovudine where risk of vertical transmission is VERY LOW. Where risk of vertical transmission is LOW oral Zidovudine should be for 28 days.
Where the risk is VERY HIGH, combination treatment with triple ART for 28 days is advised.

Please see attached NEONATAL CARE PLAN for criteria for PEP stratification.

Refer to Pharmacist or Midwife Specialist for Blood Borne Infections for advice and support. Midwife can give medication to baby. (If there is not enough staff available to check medication, this may need to be given on the Neonatal Unit)

8.3 Neonatal testing

All neonates should be tested for HIV on day 1 (see Appendix A)

All Babies will be booked into children's day care or the nurse led clinic for their blood test. And that the paediatric SPN infectious diseases will chase up the results and inform the parent/s.
In the absence of the SPN the consultant will be responsible for this.
Abnormal results will be discussed with the parent/s face to face in a clinic setting by the SPN and or consultant.

Non-breastfed infants are tested for HIV at birth, 6 weeks and 12 weeks of age with a HIV DNA PCR test. An antibody test for seroconversion should be performed at 18-24 months.

Breastfed infants are tested with a HIV DNA PCR test at birth, 2 weeks, then monthly for the duration of breastfeeding. They are also tested at 4 weeks and 8 weeks after cessation of breastfeeding. HIV antibody test for seroconversion should be checked at 18-24 months.

Maternal and Neonatal blood samples should be taken together after birth. This should be sent to Dr Julian Tang, Consultant Virologist, who should be notified that the sample is on its way (Mon-Fri only). See Care Plan for full details.

Maternal sample: 7.5ml EDTA (blue top) sample
Neonatal sample: 2.5ml EDTA sample

9. Standard hospital care for all pregnant, birthing and postnatal women and people[2,3]

9.1 Universal precautions should be practiced for all pregnant, birthing and postnatal women and people

A single room is not required for prevention of cross-infection unless there is heavy bleeding.
Necessary equipment should be easily available (plastic apron, gloves, spare linen bags and alcohol gel).
Latex gloves should be worn when taking blood
Latex gloves and plastic apron should be used for any invasive procedure, if patient is bleeding or incontinent, and for cleaning spillages of blood, secretions or excretions. Clinical waste and soiled linen should be double-bagged.

HIV is not transmitted via crockery or cutlery therefore disposable crockery and individual meal deliveries are not required. HIV positive mothers and their babies do not need to be restricted to their rooms. This is a practice that is discriminatory and unnecessary.

9.2 Infection control measures for the birth:

Standard universal precautions should be followed as for all pregnant women and people.

Mask and eye protection may be considered to prevent splashes of bodily fluid including blood.

For operative deliveries double latex gloves may be considered by the operator.

The placenta and membranes should be examined in the room, then double bagged prior to incineration

10. Education and Training

None

11. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
• National Quality Standards for HIV screening in pregnancy	• Quarterly monitoring of ANNB KPI's related to HIV screening. • Annual monitoring of national standards in relation to HIV screening ISOSS reporting	Antenatal and Newborn Screening Co-ordinator Specialist Midwives for Blood Borne Infections Consultant in Sexual Health	Quarterly and Annually as required by the NHS England	The Maternity Service Governance Group

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BHIVA Position Statement on safety signal in infants born to mothers conceiving on dolutegravir

13. Key Words

Blood born infection, Combined antiretroviral therapy, Post-exposure prophylaxis, Viral load

The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT		
Author / Lead Officer:	Original Working Party Sexual Health Team Srini Bandi - Consultant Paediatrician Louise Boon - Midwife Specialist for Blood Borne Infections Maxine Jethwa - Midwife Specialist for Blood Borne Infections Mark Finney - Consultant Obstetrician Helen Ulyett - Antenatal Screening Co-ordinator Shingisai Ndoro – Consultant Helen Cadman – Nurse Specialist	
Reviewed by:	Sexual Health Team	

REVIEW RECORD			
Date	**Issue Number**	**Reviewed By**	**Description Of Changes (If Any)**
February 2017	V3	As above	General update of statistics. Antibiotics no longer required in labour where woman have SRM.
January 2020	V3	As Above	Updated references, statistics, background Implemented change in Neonatal Management Post Exposure Prophylaxis (PEP) Pro-forma devised for PEP and Category Updated Careplan in relation to breastfeeding guidance for those women who choose to breastfeed as per BHIVA HIV & Breastfeeding your baby booklet devised
April 2024	V4		Format updated Terminology amended to include gender neutral Delivery planning added - At 39-40 weeks gestational pregnant women and people who are HIV positive will be offered a repeat viral load review to enable optimal birth planning. Added post natal mental health section Added contraception discussion Added infant feeding advice Identified location where babies will go for testing Added BCG vaccination should **ONLY** be given providing the birth HIV PCR result is satisfactory. Paediatric team will liaise with BCG team to confirm vaccination is safe to give.

Appendix A: Care Plans

Perinatal Blood Borne Infection Care Plan

HIV

UNIVERSITY HOSPITALS OF LEICESTER NHS TRUST

Directorate of Women's, Perinatal & Sexual Health Services

Patient Addressograph

☐ Leicester Royal Infirmary

☐ Leicester General Hospital

EDD ☐☐/☐☐/☐☐

Gravida _____ Parity _____

Blood Group _____

Previous Blood Transfusion ☐ Yes ☐ No

Co-infection: Hep C/Hep B/Syphilis (please circle)

Interpreter Required Y ☐ N ☐

Language Spoken _____

SPECIALIST CARE TEAM

Specialists	Name	Contact Number
Community Midwife		
Specialist Midwives		
General Practitioner		
Obstetrician		
Consultant Paediatrician		
Paediatric Specialist Nurse		
HIV Physician		
Pharmacist		
HIV Specialist Nurse Team		

Original Test Date ☐☐/☐☐/☐☐ (see filed report in maternity notes)

Date result received ☐☐/☐☐/☐☐

Date of result given ☐☐/☐☐/☐☐ Gestation ☐☐ Weeks

Confirmatory Test Date ☐☐/☐☐/☐☐

Patient see within 5 days Yes☐ No☐ _____

Aware of diagnosis prior to pregnancy ☐ Diagnosis given during this pregnancy ☐

My partner is aware of my status ☐ Not aware ☐*

Family and friends are not aware of my status * _____

Perinatal Blood Borne Infection Care Plan

HIV

Antepartum Care Plan

*Topics Discussed / Actions	Sign & Date
☐ What is HIV and patients' level of understanding	_____
☐ Confirmatory testing and further blood investigations (see routine blood test page)	_____
☐ Identification of contact and testing required / refer to Sexual Health as required	_____
☐ Notification of contacts discussed with the Specialist ID Nurse Team with consent	_____
☐ Identify risk factors	_____
☐ Methods of transmission	_____
☐ Antenatal Anti-retroviral therapy (ART) treatment required (principles of ART)	_____
☐ Prevention Education (Safe Sex/PEPSI/Legal Aspects/ Contraception U=U)	_____
☐ Antenatal Care / Intrapartum Care / Postnatal Care	_____
☐ Interventions to reduce vertical transmission	_____
☐ Introduction to Specialist Paediatric Nurse	_____
☐ Infant feeding explored and plan made (see pg6)	_____
☐ Neonatal Post Exposure Prophylaxis (PEP) category plan made (VERY LOW/LOW/HIGH) (see pg7)	_____
☐ Written information offered and provided – leaflet given on: _____	_____

*Notes: _____

_____

_____

Antenatal Checklist			Sign & Date
GP letter sent with consent	☐ Yes ☐ No		_____
Partner testing discussed/advise given	☐ Yes ☐ No		_____
Other "at risk" children identified, and referral made to Paed Spec Nurse	☐ Yes ☐ No		_____
Paediatric alert form completed, sent, and put on IT systems	☐ Yes ☐ No		_____
Neonatal HIV Pro-forma sent to Paediatric Team and put on IT systems	☐ Yes ☐ No		_____
GU infection screens swabs taken at around	☐ Booking	☐ 28weeks	Other: ☐ weeks
Resistance screen blood test sent if required	☐ Yes ☐ No		_____

Results show: _____

*Maternal ART ☐ Continue

*Individualised Plan _____

_____

_____

- Specialist Midwife to arrange Postnatal appointments in Jarvis Clinic.
- Baby appointments will be arranged by Specialist Paediatric Nurse.

Perinatal Blood Borne Infection Care Plan

HIV

Signature: _____ Print Name: _____ Date: _____

ROUTINE BLOOD TESTS

Date	Gest. (wks)	CD4	Viral Load	Hb	Platelets	WCC	U+E's / LFT's / Glucose	Initials

GU INFECTION SCREENS

Date	Gest (wks)	Chlamydia	BV	Gonorrhoea	H.S.V	T.V	Treatment given

ART MEDICATION

Date	Gestation when started or pre-pregnancy	Drug	Dosage	Frequency	Side Effects	Signature

Perinatal Blood Borne Infection Care Plan

HIV

Intrapartum Care Plan

1- Mode of delivery – Finalise plan at 34 -36 weeks Date of Plan _____

Aim for vaginal delivery

☐ Trial of vaginal delivery Obstetric Consultant Signature _____

Acceptable if HIV viral load below lower limit of detection with ultra-sensitive assay (<50 viral copies per ml), no active genital tract infection & low prior risk of intrapartum complications

GU infection screen & pre delivery virology results reviewed ☐ Yes

Obstetric Pharmacist informed of plan ☐ Yes
E-Meds Prescription Template completed by Consultant Obstetrician

Neonatal Medication Chart written in advance ☐ Yes

Pain relief options explored ☐ Yes ☐ No

Contraception discussed / advise given ☐ Yes ☐ No

***Await spontaneous labour unless obstetric indication to intervene**
***Pain relief options explored**
Active management of the third stage of labour

ERGOMETRINE is contra-indicated when women are taking protease inhibitors (PIs)
Eg (not exhaustive list) – Kaletra, Lopinavir, Ritonavir, Saquinavir, Darunavir, Atazanavir
PI's can increase the levels of ergot alkaloids. The interaction has only been noted with ergotamine but is considered to be a class effect. Ergotism (hallucinations, severe gastrointestinal upset, a type of dry gangrene caused by vasoconstriction, and a painful burning sensation in the limbs and extremities) has been seen with just one dose of ergotamine.

If Pre-labour Rupture of Membranes

1. **Be certain of diagnosis**
2. **Induce / augment immediately using oxytocin**
3. **If signs of infection refer to the Sepsis UHL Pathway.**

- Neither cord blood nor placental pathology is routinely required in relation to HIV disease.
- Cord blood should not be taken for neonatal PCR testing.
- Bath baby following birth on Delivery Suite

*Individualised notes: _____

_____

_____

_____

Sign: _____ Print name: _____ Date: _____

V4 Approved by: UHL Women's Quality & Safety Board: July 2024 Next Review: July 2027
UHL Trust ref: C63/2004

Perinatal Blood Borne Infection Care Plan

HIV

Intrapartum Care Plan

2- Mode of delivery – Finalise plan at 34 -36 weeks Date of Plan _____

Aim for elective caesarean section

☐ Elective Caesarean section at 37 / 38 / 39 weeks (please cirde)

Obstetric Consultant Signature _____

Planned Date week commencing: _____

Unless presents beforehand in advanced labour and vaginal delivery likely within four hours: then consider vaginal delivery using guidelines.

Obstetric Pharmacist informed of plan ☐ Yes
E-Meds Prescription Template completed by Consultant Obstetrician

Neonatal Medication Chart written in advance ☐ Yes

*Contraception discussed / advice given ☐ Yes
***Pain relief options explored**

Zidovudine (AZT) infusion to start 4 hours prior to Caesarean section ☐ Required* ☐ Not Required
Mothers Weight: ☐☐☐ *kg*

***(see I.V. drug folder for further information)**
Zidovudine (AZT) 2mg/kg I.V over 60 minutes, then
Zidovudine (AZT) 1mg/kg I.V per hour
Do not discontinue any other anti-retroviral medication

ERGOMETRINE is contra-indicated when women are taking protease inhibitors (PIs)
Eg (not exhaustive list) – Kaletra, Lopinavir, Ritonavir, Saquinavir, Darunavir, Atazanavir
PI's can increase the levels of ergot alkaloids. The interaction has only been noted with ergotamine but is considered to be a class effect. Ergotism (hallucinations, severe gastrointestinal upset, a type of dry gangrene caused by vasoconstriction, and a painful burning sensation in the limbs and extremities) has been seen with just one dose of ergotamine.

***Individualised notes**: _____

_____

_____

_____

_____

_____

Sign: _____ Print name: _____ Date: _____

V4 Approved by: UHL Women's Quality & Safety Board: July 2024 Next Review: July 2027
UHL Trust ref: C63/2004

Perinatal Blood Borne Infection Care Plan

HIV

Infant Feeding Careplan

BHIVA Guidelines still recommend that women living with HIV in the UK feed their babies with Formula Milk; however, if virologically suppressed on ART with good adherence, women who choose to breast feed should be supported to do so.

Infant Feeding Plan Discussion/Action

Plans to exclusively formula feed Yes ☐ No ☐

- Consents to Cabergoline* Yes ☐ No ☐

**Please note Cabergoline 1mg orally is a single dose during the first day post-partum for suppression of lactation, this may be discussed and requested at the woman's delivery plan*

***Plans to exclusively breast feed** Yes ☐ No ☐

- Explain and discuss what the 'Safer Triangle' means to help protect baby from HIV whilst breast feeding as per BHIVA guidance (No virus, healthy breast/chest/healthy tummies) Yes ☐ No ☐
- Check patient has understood the guidance Yes ☐ No ☐
- Paediatric Specialist Nurse and Consultant Paediatrician aware of plan Yes ☐ No ☐

Intends to breastfeed for: _____ weeks / months

- Signposted to BHIVA pregnancy guidelines for information on: Yes ☐ No ☐
  1- General Information on Infant Feeding for Parents living with HIV
  2- HIV and Feeding Your Newborn Baby

When a woman decides to breastfeed, she and her infant should be reviewed monthly in clinic for HIV RNA Viral load testing during and for 2 months after stopping breastfeeding.

Discuss the importance of the mother remaining on ART whilst breastfeeding.

I will attend all the scheduled appointments **Yes ☐** **No ☐**

Mother Signature: _____ Print Name: _____ Date: _____

***Individualised notes**: _____

_____

_____

_____

_____

Health Professional Signature: _____ Print name: _____ Date: _____

Perinatal Blood Borne Infection Care Plan

HIV
Neonatal Care Plan

Neonatal Management - Post Exposure Prophylaxis (PEP)*

This careplan has been re-written following updated Guidelines from the British HIV association (BHIVA 2018) on the duration of PEP. Please see individualised Neonatal HIV Pro-forma.
More detailed information can be found at www.bhiva.org/pregnancy-guidelines

Neonatal PEP should be commenced as soon as possible after birth, and at least within 4 hours of birth.
At the mothers delivery plan which is usually between 34/36 weeks the infant risk has been established.
(see criteria below)

Drug	Dose	Category of Risk and Duration of therapy
Zidovudine (AZT)	4mg/kg BD *	VERY LOW RISK ☐ 2 WEEKS
Zidovudine (AZT)	4mg/kg BD *	LOW RISK ☐ 4 WEEKS
Combination PEP	Expert advice and guidance required	HIGH RISK 4 WEEKS ☐
•		
•		
•		
* If 34+6 weeks gestation or less for reduced (AZT) dose, refer to 'HIV in Children Guideline(2019)' for further information on drug doses for infants		

In the context of known maternal resistance to Zidovudine with VERY LOW RISK or LOW RISK, Zidovudine monotherapy is still recommended for infant PEP

Paediatric responsibility following delivery

Following birth, a Neonatal Blood test sample is taken on day 1 (Maternal sample is also required) * samples must reach virology lab by 4.00 p.m. (Mon – Fri only). Notify Consultant Virologist, that samples are being sent

Cord blood *must not* be used for this test.

Neonatal Blood test – 2.5 ml EDTA sample (red top) to be taken at the same time as the maternal blood test

*Maternal Blood test – 7.5 ml EDTA sample (blue top) to be taken at the same time as the neonatal blood test.

Virology form - Separate forms are required for Maternal and Neonatal samples, but sent together.

Test to be requested - Diagnostic retroviral PCR
Clinical details to be requested - State which maternal retrovirus may have been vertically transmitted.

- Prior to infant discharge notify Specialist Paediatric Nurse by E-mail of baby's birth (see page 1)
- Refer baby to Dr Bandi for follow up at 6 weeks, 12 weeks, and 22-24 months (VERY LOW/LOW RISK)
- If mother is breastfeeding/or HIGH-RISK baby will require a follow up at 2 weeks of age and monthly for the duration of breastfeeding.

*Immunisations – The BCG vaccination should **ONLY** be given providing the birth HIV PCR result is satisfactory. Paediatric Team will liaise with the BCG Team to confirm vaccination is safe to give.*

Signature: _____ **Print name:** _____ **Date:** _____

7

APPENDIX B: ZIDOVUDINE REGIMEN FOR PREVENTION OF INTRAPARTUM MATERNAL-FETAL RETROVIRUS TRANSMISSION

Regime (see data sheet)	**Addressograph**
Zidovudine I.V. 2mg/kg given over one hour followed by an infusion of 1mg/kg/hr until cord is clamped. **Ideally total infusion time should be for a minimum of 4 hours prior to delivery.**	

Proposed date of c/section…… Weight …… on …….. (date)

Dose required

…….mg given over one hour followed by ……. mg/ hr to continue.

N.B. If an elective c/section is planned check Delivery Suite drug fridge for ready prepared infusion.

- **Preparation of infusion**
  - Remove 40ml from a 100ml minibag of Sodium Chloride 0.9% infusion and discard.
- Add 400mg zidovudine (40ml injection containing 10mg/ml) to the solution remaining in the bag. The final volume in the bag is 100ml.
  - Resulting solution contains 4mg / ml.
- **Start infusion at least four hours before planned section or as soon as possible for vaginal delivery**
- Initial rate ……..ml/hr for ONE HOUR then
- Decrease rate to ..…….ml/hr until cord is clamped.
- **Continue infusion until the cord is clamped.** If necessary prepare a second infusion
- **Ideally infusion should run for a minimum of 4hours before delivery.**

Date……Calculated by …….. Checked by ……..…….
(Sign & print names)

APPENDIX C: Rapid HIV/POCT (Point of Care Testing) Protocol

We should be advising HIV screening in all our pregnant women and people as testing has been found to be cost effective in areas with HIV prevalence rates as low as 0.2%.

Offering universal screening besides providing an opportunity for testing removes the need of enquiring into an individual's sexual risk taking behaviour and the stigma of being singled out for testing.

When offering an HIV test you should be able to discuss the implications of a positive or a negative test result being cognisant that the woman or person may potentially require treatment.

In your particular setting you will also require a balanced approach, mindful of the emotional state of the pregnant woman or person to give informed consent and their ability to handle a positive result. Depending on your local protocol, consent may require recording or not however documentation of the rapid test result and how further results will be communicated to the patient should always be noted.

The routine HIV antibody test is able to identify antibodies to the HIV virus in more than 99% of cases. Recent tests can also detect the HIV antigen enabling a diagnosis to be made as early as 4 weeks after virus exposure.

Benefits of using the test:

- The result is available in minutes rather than days. It decreases the risk of failure to return for results (studies show that 31% of people that were tested i.e. in the community setting by conventional HIV tests, never returned for results).
- It also potentially reduces the barriers to testing like waiting for results and increases the potential to incorporate the test in routine care (like a pregnancy test).
- The rapid test result while being a preliminary result only provides an opportunity of linking patient into care.

Some limitations of the test are:

- The test currently remains a provisional test only and will **always** require confirmation.
- Some rapid test kits will miss acute sero-conversion states (like the INSTI rapid test kit).
- The test is more expensive than the lab based HIV antibody test and documentation of the test results will be required.
- Its use is not recommended in infants <15 months (due to the presence of maternal antibodies).

Who will you consider for testing: (see flow chart below)

At time of labour:

- If undocumented HIV status consider screening ALL pregnant women and people especially those from high prevalence areas (in the UK defined as areas where >1 HIV positive case found in 1000 that are screened annually) unless the woman or person declines.

- All women and people without HIV identified as being at high risk of HIV or those identified with ongoing risk (IVDU/ partner from a high prevalence area or HIV infected).

- All HIV women and people without with clinical symptoms/signs suggestive of acute HIV sero-conversion (i.e. glandular fever like presentation) will also need retesting.

At post partum:

- Consider testing and screening if the woman or person remains untested or has previously declined testing. Again discuss the benefits of HIV treatment in preventing neonatal transmission if initiated within 12 hrs after birth.

- In some cases HIV testing of infants may be required in these cases and the presence of HIV antibodies in the newborn will mean that the mother is infected.

Possible Scenarios:

Question – "The Rapid HIV test is reactive (positive) – what do I do next?" (see flowchart)

- Explain the result in simple terms as a "preliminary result only".
- Emphasise the importance of confirmatory testing and arrange a return visit for results if required.
- Discuss the need for precautions like safe sex to avoid possible transmission while waiting for confirmatory results.

For example – "Your preliminary test is positive but we will not know for sure until we get the results from your confirmatory test. In the meantime……..."

Question – "The Rapid HIV test is reactive but further testing is declined by the patient"

- Ensuring that the confirmatory test is immediately available may improve further testing.
- Address the reasons for the patient declining further testing.
- Consider offering oral western blot test to those who refuse blood test (if available).
- Seek expert advice.
- Document decision in notes.
- Test neonate for HIV at birth

Question – "The Rapid test is positive but the confirmatory HIV test is negative or indeterminate"

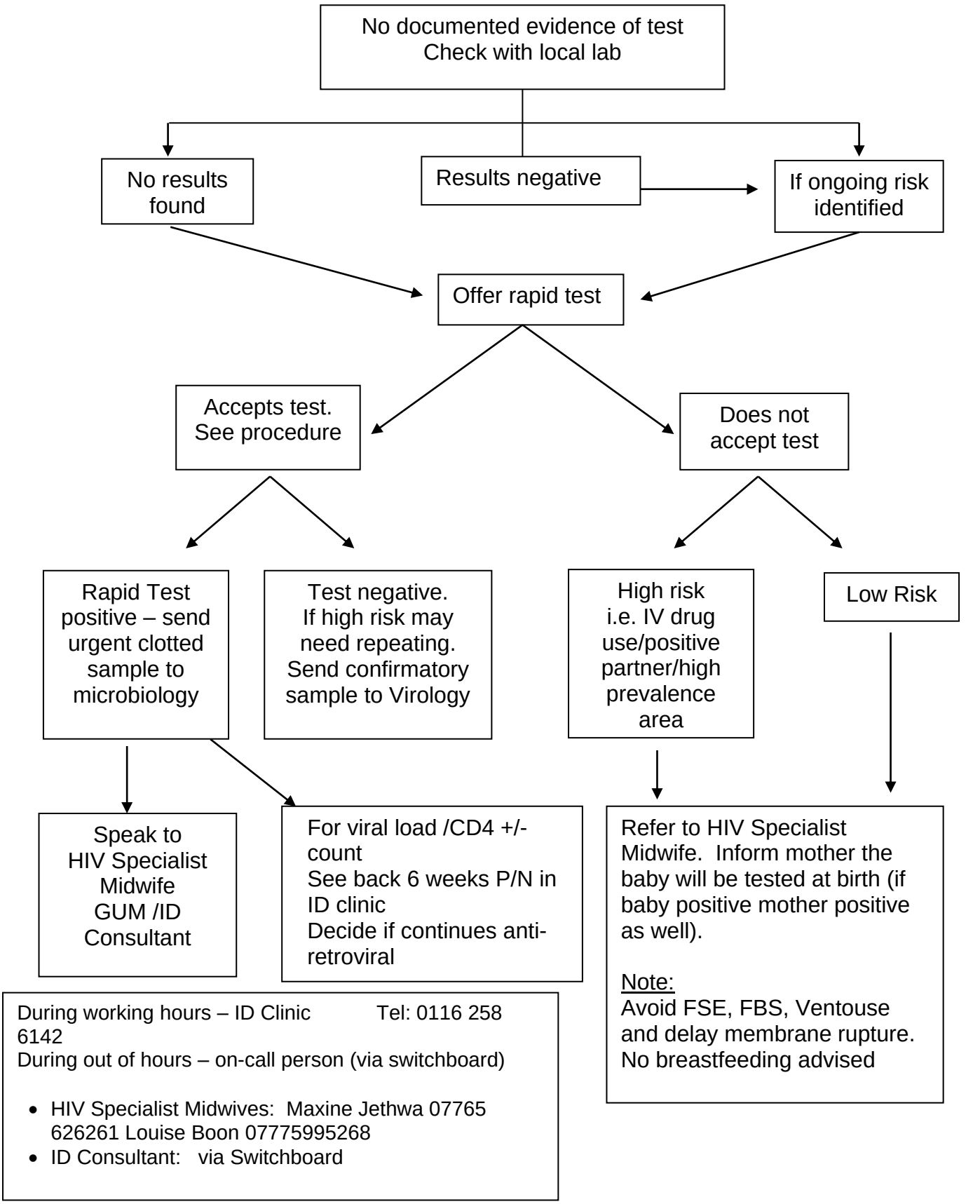
Remember that no test is perfect with possible false positive and false negative results (HIV prevalence rates locally will affect the predictive value of a test). In such cases you will need to:

- Repeat the confirmatory test.
- If still negative/indeterminate –repeat the confirmatory test in 4 weeks.

Note: In some cases doctors may request an HIV RNA but remember this test is not licensed for purposes of diagnosis and again may give false results.

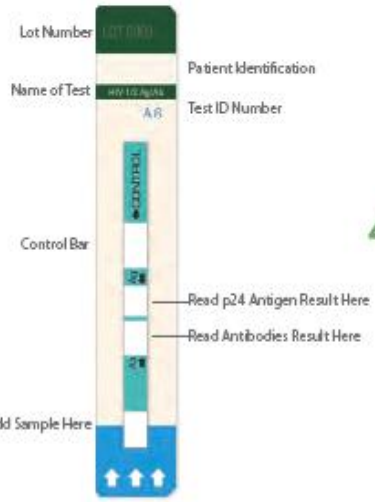
Question- "I have a patient who requires a rapid test – how do I test?" (See Procedure following page)

Flowchart for use of Rapid Test for HIV Infection
In pregnant women & people



During working hours – ID Clinic Tel: 0116 258 6142
During out of hours – on-call person (via switchboard)

- HIV Specialist Midwives: Maxine Jethwa 07765 626261 Louise Boon 07775995268
- ID Consultant: via Switchboard



Determine® HIV-1/2 Ag/Ab Combo

Whole Blood Procedure

(Refer to package inserts for assay procedures)

Remove tests

1

Note: Removal of the test units should start from the right side of the test card to preserve the lot number which appears on the left side of the card.

Remove cover

2

Add sample

3

Add sample (50µl) to sample pad (finger stick or venipuncture)

Wait
1 minute

Add chase buffer

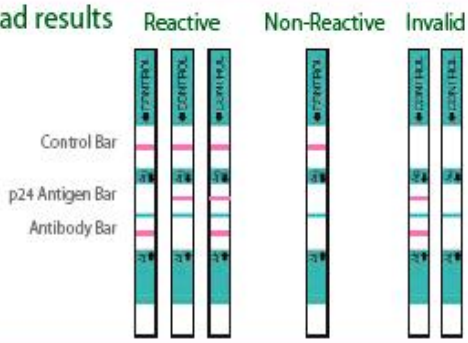
4

Add one drop of chase buffer

Wait
20 minutes

Read results

5



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Appendix D: Antenatal care pathway flow chart