Royal Hospital for Women (RHW)
BUSINESS RULE
COVER SHEET

Health
South Eastern Sydney
Local Health District

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EXECUTIVE SPONSOR	Maternity Services Co-Directors Director of Obstetrics
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SUMMARY	Appropriate identification and management of woman with Hepatitis B infection • Reduce mother to child infection of Hepatitis B
Key Words	Hepatitis B, Maternal Screening, Vaccination.

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Hepatitis B – Universal Screening in Pregnancy and the Management of a Positive Woman

RHW CLIN181

Contents

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RHW CLIN181

This Clinical Business Rule (CBR) is developed to guide safe clinical practice at the Royal Hospital for Women (RHW). Individual patient circumstances may mean that practice diverges from this Clinical Business Rule. Using this document outside RHW or its reproduction in whole or part, is subject to acknowledgement that it is the property of RHW and is valid and applicable for use at the time of publication. RHW is not responsible for consequences that may develop from the use of this document outside RHW.

Within this document we will use the term woman, this is not to exclude those who give birth and do not identify as female. It is crucial to use the preferred language and terminology as described and guided by each individual person when providing care.

1 BACKGROUND

The aim of this CBR is to specify the requirements for:

a) universal screening of a pregnant woman for Hepatitis B and
b) the care and management of a pregnant woman with Hepatitis B to minimise the risk of mother to child transmission.

This includes the screening of all pregnant women for Hepatitis B surface antigen, referral of the Hepatitis B positive woman to specialist services and care of the Hepatitis B positive woman and her fetus/neonate during the antenatal and the intrapartum period[1]:

Definitions[1]:

Australian Immunisation Register (AIR)	A system that records the information about vaccinations given to all persons of all ages in Australia
Hepatitis B surface antigen (HBsAg)	A protein on the surface of the Hepatitis B virus. It can be detected in serum during acute or chronic hepatitis B virus infection
HBsAg positive serology	The presence of HBsAg indicates active Hepatitis B infection
Hepatitis B immunoglobulin (HBIG)	A protein extract from blood that provides temporary immunity to Hepatitis B
Hepatitis B vaccination schedule	The National Immunisation Program (NIP) recommends Hepatitis B in a four-dose schedule, administered at or within 7 days of birth, followed by a dose administered at 6 weeks, 4 and 6 months of age
High viral load (in pregnancy)	Viral load >200,000 or 5.3 log10 IU/mL in current pregnancy
Peak viral load	The highest recorded viral load in the current pregnancy
Low viral load	Viral load ≤ 200,000 or 5.3 log10 IU/mL in current pregnancy
Neonate	A live newborn infant from birth to 28 days old
Public Health Unit (PHU) Immunisation Coordinator	A senior PHU officer who is responsible for monitoring and reporting on hepatitis B vaccination course completion in all infants born to HBsAg positive women

2 RESPONSIBILITIES

2.1 Staff (medical, midwifery, nursing, allied health)

- Medical and midwifery staff to ensure appropriate screening is offered to all women with timely follow up of results and referrals as advised
- Medical, midwifery and nursing staff to ensure appropriate and timely administration and documentation of neonatal Hepatitis B vaccine and HBIG (if required)
- Clinical Midwifery Consultant for Infection Prevention and Control to report screening and vaccination records to the LHD as required
- Maternity Data Manager to ensure maternal screening records are fully completed

3 PROCEDURE

3.1 Clinical Practice points

Antenatal:

- Ensure pregnant woman is counselled and screened for Hepatitis B at booking and provide the Hepatitis B vaccination for your newborn leaflet 'Hepatitis B vaccination, For your newborn baby' via e-Maternity or the 'Hepatitis B vaccination for babies' factsheet via NSW Health.
- Request Hepatitis B screening (HBsAg, HBcAb, HBsAb) at first appointment if no screening previously done in the current pregnancy. Ensure timely follow-up
- Interpret blood results using the following table:

Hepatitis B surface antigen	HBsAg	Current infection
Hepatitis B e-antigen	HBeAg	Marker of HBV replication and infectivity. Presence of HBeAg usually associated with higher HBV DNA levels
Hepatitis B surface antibody	HBsAb or Anti-HBs	Immunity due to vaccination (if HBcAb negative)
Hepatitis B e antibody	HBeAb or Anti-HBe	Marker of HBV replication and infectivity. Presence of HBeAb usually associated with lower HBV DNA levels
Hepatitis B core antibody	HBcAb or Anti-HBc	Immune due to resolved infection (if HBsAg negative)
Hepatitis B virus DNA	HBV DNA	Measures the amount of virus in the bloodstream and is an indicator of viral replication and transmission risk

- Document result of maternal screening clearly on yellow card **and** in the medical record (e-Maternity)

- Inform woman if she is HBsAg positive using clear language. e.g. 'You have Hepatitis B infection' and provide patient information leaflet. This leaflet is available in multiple languages from Multicultural HIV and Hepatitis Service.
- Provide information around newborn and postnatal care for the neonate (Hepatitis B Mothers and Babies | Hepatitis NSW).for pregnant woman with a positive Hepatitis B screen, Follow up on any automatic additional tests that are completed by laboratory if HBsAg positive (HBcAb, HBeAg, HBeAb, HBsAb). Note for HBeAg, the e antigen indicates a high infective status and is usually associated with higher HBV viral load (HBV DNA)
- Contact the Infection Prevention Clinical Nurse Consultant (IPC CNC) regarding all woman with a HBsAg positive result. (email: SESLHD-rhwinfectioncontrol@health.nsw.gov.au/ Office: 9382-6339/ Mobile: 0499 390 358 (preferred))
- Refer woman with a positive HBsAg result to the Royal Hospital for Women (RHW) 'Infections in Pregnancy' clinic as an urgent appointment and before 28/40 gestation. An appointment can be booked through the Outpatients Department.
- Request further bloods to be completed prior to this appointment:
  - HBV DNA
  - Liver function test (repeat at 26-28 weeks)
  - Full Blood Count (FBC)
  - International Normalised Ratio (INR)
- Refer woman with a positive HBsAg result, after they have been seen in the RHW 'Infections in Pregnancy' clinic, to the Prince of Wales (POW) Infectious Diseases Clinic with full medical officer details provided (e.g. provider number and contact details). Telephone 93823405 or fax 93823403. Note interpreter requirements on referral if required. Patients will have care provided by an Infectious Diseases Staff Specialist, Fellow, and Viral Hepatitis CNC (Mobile: 0476 896 392) irrespective of Medicare eligibility/status
- Complete checklist (see appendix 1)
- Notify PHU of new diagnosis via telephone (9382 8333) or fax (9382 8314) in office hours. This is the responsibility of the clinician reviewing the positive HBsAg result
- Ensure HBsAg positive woman is tested for Hepatitis C (anti-HCV Ab (and HCV RNA, if HCV Ab positive)) and HIV (HIV Ag/Ab) in the current pregnancy
- Inform HBsAg positive woman Hepatitis B is a notifiable disease
- Inform HBsAg positive woman that all household contacts should be referred to their GP for screening and vaccination, if they have not previously been vaccinated
- Inform HBsAg positive woman of the recommendation for administration of the HBIG for neonate at birth, alongside the Hepatitis B vaccine
- Advise HBsAg positive woman of the recommendation for neonatal follow up

Intrapartum:

- Ensure a Hepatitis B screen has been completed in pregnancy. If not, collect an **urgent** sample when presenting for labour care. Call laboratory to request urgent result. Contact Neonatal Care team, IPC CNC, and POW Infectious Diseases Clinic if the result is positive.
- Provide care using recommended precautions until a Hepatitis B result is available. Avoid the use of fetal blood sampling or fetal scalp electrodes for woman with an unknown HBsAg result

- Ensure Hepatitis B screen result for woman is documented in e-Maternity. This includes private patients and those presenting from other hospitals
- Use standard PPE caring for woman who are HBsAg positive (regardless of HBV DNA result)
- Avoid invasive procedures, including fetal scalp blood sampling and use of fetal scalp electrodes, for woman who is HBsAg positive
- Recommend healthcare workers who are non-responders to the Hepatitis B vaccine avoid attendance at the birth of a woman with a high viral load

Postnatal/Neonatal:

- Recommend Hepatitis B vaccine for neonate. Use Hepatitis B vaccine administration for the neonate CBR for further guidance
- Provide appropriate care for the neonate born to a HBsAg positive woman. Use Hepatitis B positive mother – Neonatal management CBR for further guidance
- Recommend administration of Hepatitis B immunoglobulin for neonate of HBsAg positive women immediately after birth. Use Hepatitis B positive mother – Neonatal management CBR for further guidance
- Recommend breastfeeding as usual: HBsAg positive woman can breastfeed her neonate providing the neonate is immunised

4 DOCUMENTATION

- Antenatal yellow card
- e-Maternity
- K2 Guardian

5 EDUCATION NOTES

- Hepatitis B is a viral infection that can cause both acute and chronic liver infection and damage[2,3,4]
- Age at infection is an important determinant of HBV natural history. After exposure, most adults (>95%) will have acute self-limiting infection, while most neonates (90%) will develop chronic infection. The virus is spread via blood and body fluids and can potentially be transmitted from mother to baby at or around the time of childbirth. People with hepatitis B virus (HBV) infection are often asymptomatic[4]
- Globally, most Hepatitis B infections are acquired prenatally and most of these infections can be prevented by appropriate prophylaxis given at the time of birth. It is vital to ensure babies born to HBsAg positive mothers receive the Hepatitis B vaccine plus HBIG at birth. The Hepatitis B vaccine course must be completed with doses at 2, 4 and 6 months of age[6,8,11]. Hepatitis B is a vaccine-preventable disease, and four doses of Hepatitis B vaccine in the first year of life are recommended in the current Australian National Immunisation Program Schedule[5,6]
- For a neonate born to a mother with HBV infection, Hepatitis B vaccination reduces the risk of infection by 70%; the addition of HBIG at birth augments this risk reduction to over 90%
- In 2020, it was estimated that in Australia 68% of people living with chronic hepatitis B were born overseas. Many of these people are from culturally and linguistically diverse backgrounds[4]

- Acute Hepatitis B is rare in Australia. Acute Hepatitis B diagnosed in the first or second trimester carries a perinatal transmission risk of approximately 10%. Acute Hepatitis B diagnosed in the third trimester carries a perinatal transmission risk of approximately 75%. Hepatitis B infection should not alter mode of delivery[2,3,6]
- Immunoprophylaxis (vaccine and HBIG) at birth is highly effective in preventing transmission of Hepatitis B in more than 95% of babies. The small proportion of babies who fail to be protected by this regimen and develop Hepatitis B are usually those who do not receive the full regimen of vaccination, those who fail to develop antibodies (anti-HBs), or who are born to mothers with very high levels of HBV DNA[7,8,9]
- For a **woman who has a high viral load** (HBV DNA >200,000 IU/ml or 5.3 $\log_{10}$ IU/mL), mother to child transmission can occur in up to 10% of infants despite immunoprophylaxis. To further reduce risk of mother to child transmission, societal guidelines (based on clinical trial evidence) recommend that antiviral treatment is discussed with and offered to women with high viral load (HBV DNA >200,000 IU/ml)
- Tenofovir, which has a well-established safety profile in pregnancy, is the preferred antiviral agent. Tenofovir is available for six months via streamlined authority on the Pharmaceutical Benefits Schedule for prevention of mother to child transmission
- Consider commencing treatment with oral tenofovir from 28-30 weeks of gestation until delivery (or earlier if amniocentesis or invasive procedure is required, or preterm birth is likely). The optimal time to cease tenofovir is not established; usual practice is to stop treatment between 6 and 12 weeks postpartum. Rebound rise in HBV viral load and/or ALT may occur. Informed consent should be obtained and follow up scheduled[2,7]
- Caesarean section is not required to prevent mother to child transmission of Hepatitis B. Therefore, Hepatitis B infection should not alter the mode of delivery with caesarean section being reserved for the usual obstetric indications[5]. Prenatal testing (chorionic villus sampling and amniocentesis) in mothers with high viral load carries a significant risk of mother to child transmission and should be avoided if alternatives are possible

6 RELATED POLICIES/PROCEDURES

- Neonatal and Infant Hepatitis B Prevention and Vaccination Program Policy Directive [1]
- Hepatitis B – Vaccination for the neonate
- Hepatitis B positive mother – Neonatal management
- Sexually Transmitted Infections (STI) / Blood Born Viruses (BBV) Antenatal Screening and Treatment
- Table of Infectious Diseases, Modes of Transmission and Recommended Precautions for Staff and Patients to Prevent Transmission

7 REFERENCES

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9. NSW Hepatitis B Strategy 2023-2026. NSW Ministry of Health 2014. https://www.health.nsw.gov.au/hepatitis/Publications/hepatitisbstrategy.pdf

8 NATIONAL STANDARDS

- Standard 3: Preventing and Controlling Healthcare-Associated Infections
- Standard 5: Comprehensive Care

9 ABORIGINAL HEALTH IMPACT STATEMENT DOCUMENTATION

- Considerations for culturally safe and appropriate care provision have been made in the development of this Business Rule and will be accounted for in its implementation.
- When clinical risks are identified for an Aboriginal and/or Torres Strait Islander woman or family, they may require additional supports. This may include Aboriginal health professionals such as Aboriginal liaison officers, health workers or other culturally specific services

10 CULTURAL SUPPORT

- For a Culturally and Linguistically Diverse CALD woman, notify the nominated cross-cultural health worker during Monday to Friday business hours
- If the woman is from a non-English speaking background, call the interpreter service: NSW Ministry of Health Policy Directive PD2017_044-Interpreters Standard Procedures for Working with Health Care Interpreters

11 REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
Aug 2025	V1	Draft

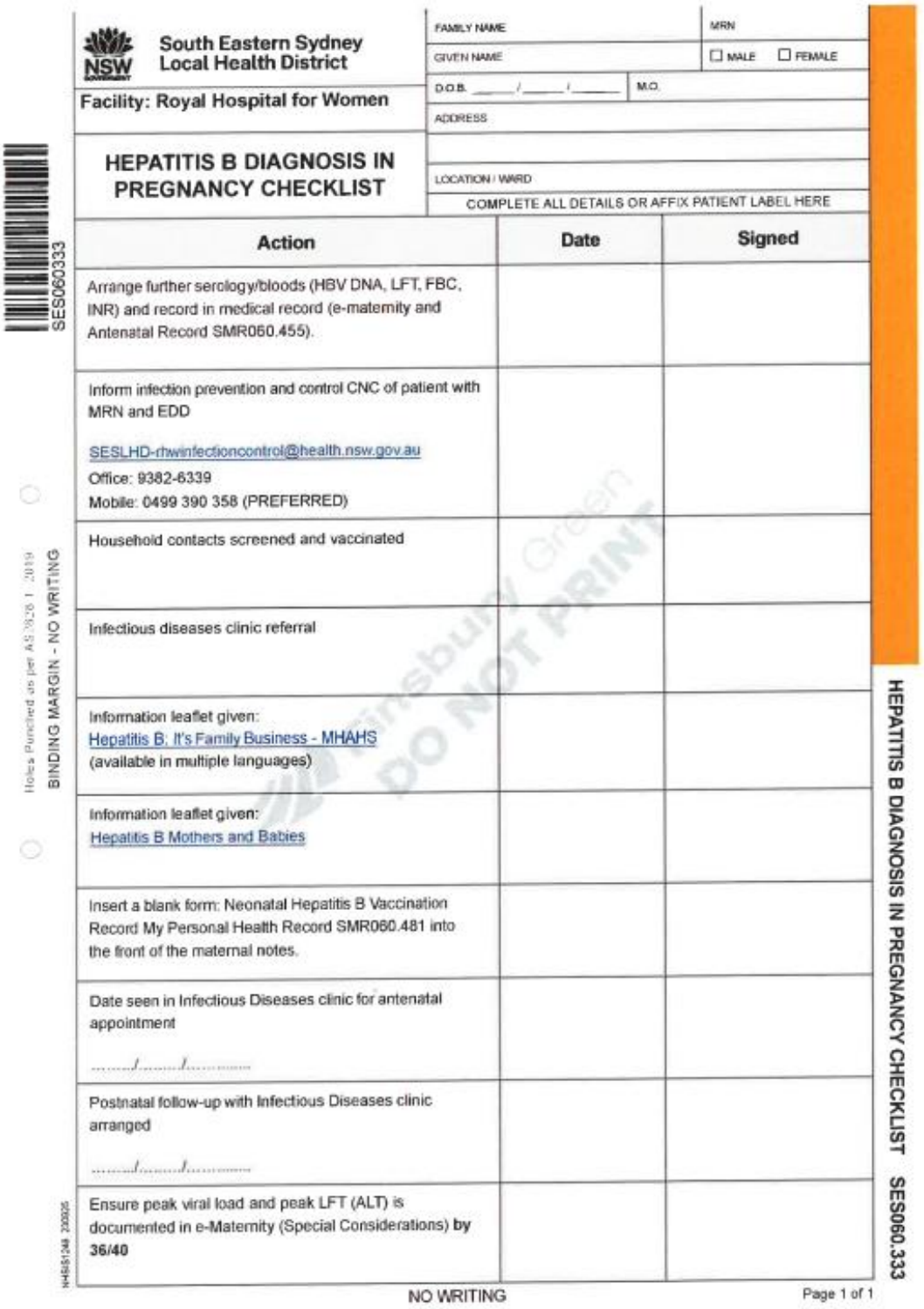
Sept 2025	V1	Forms committee endorsement of Appendix 1
Oct 2025	V1	Added Appendix 1 Hepatitis B Diagnosis in Pregnancy Checklist SES060.333
10.11.25	V1	Endorsed by RHW BRGC

Royal Hospital for Women (RHW)

BUSINESS RULE

Name of Business Rule	RHW CLIN

Appendix1.



South Eastern Sydney Local Health District

Facility: Royal Hospital for Women

HEPATITIS B DIAGNOSIS IN PREGNANCY CHECKLIST

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

D.O.B. ____/____/____ | M.O.

ADDRESS

LOCATION / WARD

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

SES060333

Action	Date	Signed
Arrange further serology/bloods (HBV DNA, LFT, FBC, INR) and record in medical record (e-maternity and Antenatal Record SMR060.455).		
Inform infection prevention and control CNC of patient with MRN and EDD SESLHD-rhwinfectioncontrol@health.nsw.gov.au Office: 9382-6339 Mobile: 0499 390 358 (PREFERRED)		
Household contacts screened and vaccinated		
Infectious diseases clinic referral		
Information leaflet given: Hepatitis B: It's Family Business - MHAHS (available in multiple languages)		
Information leaflet given: Hepatitis B Mothers and Babies		
Insert a blank form: Neonatal Hepatitis B Vaccination Record My Personal Health Record SMR060.481 into the front of the maternal notes.		
Date seen in Infectious Diseases clinic for antenatal appointment ...../...../.....		
Postnatal follow-up with Infectious Diseases clinic arranged ...../...../.....		
Ensure peak viral load and peak LFT (ALT) is documented in e-Maternity (Special Considerations) **by 36/40**		

BINDING MARGIN - NO WRITING

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Glenfield Green DO NOT PRINT

HEPATITIS B DIAGNOSIS IN PREGNANCY CHECKLIST SES060.333

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