Antenatal and Postnatal Care Pathways for babies, and infants, born to mothers with Hepatitis B

Guideline information

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Scope:
This guideline will provide clear guidance for the Multi-Disciplinary Team (MDT) caring for the mother (in the antenatal period) to utilise a clear pathway for the care of babies (both in utero and following birth) who are at risk of Hepatitis B (Hep B) infection and ensure prompt vaccinations are given according to the recommended accelerated immunisation schedule.

To be read in conjunction with:
1113. Antenatal Paediatric Referral Pathway / Paediatric Advice Guideline (opens in a new tab

Patient information:

Owning group: Obstetric Group
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Glossary of terms
Hep B - Hepatitis B
HBsAg - Hepatitis B surface Antigen
HBeAg - Hepatitis B e-Antigen

ASW - Antenatal Screening Wales
MDT - Multidisciplinary Team
BBV - Blood Borne Virus
HPT - Health Protection and immunisation Team
PHW - Public Health Wales
CYPRiS - Child Health database
PCHR /Red Book - Personal Child Health Record (also known as the “Red Book” due to colour of cover)

Contents

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Aim

This guidance aims to provide clear guidance for the Multi-Disciplinary Team (MDT) caring for the mother (in the antenatal period) and for the baby following birth providing a clear pathway for the care of babies (both in utero and following birth) who are at risk of Hepatitis B (Hep B) infection and ensure prompt vaccinations are given according to the recommended accelerated immunisation schedule

Objectives

This will be achieved by the following objectives:

- Maternal screening for Hep B in the antenatal period as per Antenatal Screening Wales guidance and standards.
- Notification of both maternal result and baby birth to those required for follow up, treatment and vaccinations are carried out in a timely manner.
- Ensure an appropriate and prompt referral is undertaken to the Hepatology Team/Blood Borne Virus (BBV) Team and the Gastroenterology team who will be responsible for maternal care, plans of care, monitoring of viral load, and consequent treatment.
- Obstetric care for the mother and referral to the neonatal/paediatric team is undertaken in the antenatal period for a plan of care for the baby immediately following birth.
- Ensure that pathways and guidance required for neonatal vaccines required following birth are in place, and vaccinations are given in the recommended time frame.
- Appropriate and timely information sharing and communication between the MDT is undertaken.

Background

Hepatitis B is an infectious disease caused by the Hepatitis B Virus (HBV). It is transmitted through blood and other body fluids and can result in an acute or chronic infection of the liver, which can cause serious illness and premature death. The Hepatitis B neonatal and infant vaccine forms part of the national immunisation programme and is delivered alongside the Hepatitis B antenatal screening programme.

Infants who are infected during pregnancy and birth are at high risk (90%) of becoming chronic carriers. A timely and complete immunisation course for the baby prevent development of persistent HBV infection in over 90% of cases. This relies on consistent clear practice and record keeping as well as effective communication between partner agencies involved.

The hepatitis B surface antigen (HBsAg) is used to screen for the presence of this infection. It is the first detectable viral antigen to appear during infection. Shortly after the appearance of the HBsAg, another antigen - hepatitis B e antigen (HBeAg) will appear. Traditionally, the presence of HBeAg in a host's serum is usually associated with much higher rates of viral replication and enhanced infectivity.

During the natural course of an infection, the HBeAg may be cleared, and antibodies to the 'e' antigen (anti-HBe) will arise immediately afterwards. This conversion is usually associated with a dramatic decline in viral replication.

Individuals who remain HBsAg positive for at least six months are considered hepatitis B chronic carriers. PCR tests detect and measure the amount of HBV DNA - viral load, to assess a person's infection status and to monitor treatment.

For further information please refer to the Hepatitis B (chapter 18) of Immunisation against Infectious diseases '*The Green book'.*-opens in new tab.

Responsibilities

All Health Care professionals within the Multi-Disciplinary Team caring for Women and their babies, have a duty of care to ensure that:

- There is identification of a health care professional responsible for each action of the Hepatitis B pathway
- All patient information is given appropriately and considers the individual needs of the mother/ and their family.
- Documentation of actions required are undertaken and recorded in full
- Relevant information is appropriately shared with-the Multi -disciplinary and Multi-agency Teams identified in this guidance
- Vaccines/immunoglobulins required are ordered and stored correctly.
- Vaccinations (and Immunoglobulins if required), are administered correctly and within the specific timeframe.
- Recording of vaccines is appropriately recorded in the relevant places.

Key Points of Pathway

- All babies at risk are identified, mothers are encouraged to consent to the immunisation schedule, and the first vaccine (and HBIG where appropriate) is administered within 24 hours of birth.
- There is documented plan in maternal notes (paper/digital) for baby
- There is effective handover from maternity services to the team completing the immunisation schedule, with effective communication between all professionals until the care pathway is complete.
- Full immunisation schedule is undertaken in a timely manner.
- In addition to vaccination, it is equally important infants attend for their appropriate serology test at 12-18 months of age to check whether Hep B infection has been prevented (Hepatitis B surface antigen (HBsAg). If serology results show a poor response to vaccinations already given, then a further dose of the monovalent Hep B vaccine should be considered.
- The Health Board's Infant and Pregnancy Immunisation Group and Immunisation Oversight Group is assured that all processes have been followed, with the expectation health professionals will undertake appropriate action in the event a child has missed an immunisation and /or serology testing.

Screening of Pregnant Women

- **Screening for communicable diseases** is part of the All-Wales antenatal screening programme in Wales. Women should be offered routine screening for Hepatitis B, HIV, and Syphilis at their **initial booking** appointment with the midwife. This appointment should be carried out no later than 10+1 weeks gestation in accordance with the Antenatal Screening Wales's (ASW) standards. https://nhswales365.sharepoint.com/sites/PHW_ScrInfProComms/SitePages/Policy-and-standards.aspx -opens in a new tab

- **Conversation and acceptance/consent** for screening should be documented in the All-Wales Antenatal Maternity Record (commonly called the hand-held notes) or on the digital Badgernet notes as appropriate. Should the woman / birthing person decline screening at the initial appointment they should be re-offered screening for Hep B, HIV and Syphilis by 20+6 weeks of pregnancy
- There is one Antenatal Screening Wales Governance Midwife and three screening midwives (one for Pembrokeshire, Carmarthenshire, and Ceredigion) in Hywel Dda University Health Board who are responsible for checking results from routine screening the antenatal period. The antenatal screening midwives also maintain the re-offer database for the women who have declined the screening at dating scan. The antenatal screening midwives will alert hospital and community midwives to re-offer screening by 20+6 weeks as required, and if still declines, then inform the woman/ birthing person that they can undergo screening at any point during their pregnancy should they change their mind

Communicable disease blood samples should be sent to the microbiology/virology laboratory (during working hours of Monday to Friday)

- If the gestation of woman/ birthing person is more than 23 completed weeks pregnant when the sample is taken, the sample should be marked rapid.
- If the woman/ birthing person is more than 36 weeks pregnant when the sample is taken, the sample should be marked urgent and the laboratory contacted to discuss.

Women who present in labour with undocumented communicable disease status.
These women require a risk assessment to determine if an urgent communicable disease test is required. This should be done in consultation with your local consultant microbiologist (this requires a consultant-to-consultant dialogue).

Women with an existing diagnosis already known, a sample for hepatitis B DNA should be taken, with verbal consent, at the same time as the antenatal screening tests and that a copy of the result is sent to health board's Consultant Gastroenterologist/ Hepatologist to whom the woman has been referred.

Management of reactive communicable disease initial screening results

In a small number of cases, the primary laboratory test is weakly reactive, making it difficult to give a definitive result to women. This may occur where there is a recently acquired infection and, in that scenario, the diagnostic tests can take up to three weeks to become a definitive result of infection. This potentially can cause a period of confusion and anxiety for pregnant women and staff, however in most cases these reactive results are unlikely to be of any clinical significance.

Antenatal Screening Wales have developed protocols and factsheets for health care professionals and public information for the management of these reactive communicable disease initial screening results. Access the ASW “Infections and Rashes in Pregnancy: A guide for Health Professionals” via link below . Note. This is only available via the Professional intranet site and is accessible to NHS Wales staff only.

https://nhswales365.sharepoint.com/sites/PHW_ScrInfProComms/_layouts/15/viewer.aspx?sourcedoc={31f0b82e-1511-4dea-8cf1-b0fd346b47ff} -opens in a new tab.

The patient information leaflet for reactive results is available via link below.
This information is for you if you are pregnant and have received an initial reactive result in HIV, hepatitis B or syphilis - Public Health Wales -opens in new tab.

Babies born to Hepatitis B positive women.

Post-exposure immunisation will be provided to infants born to mothers, who are already known to be Hepatitis B infected or identified through antenatal screening After gaining parental consent, immunisation of babies of babies of mothers with Hepatitis B should be commenced as soon as possible after birth The first vaccine should be given with 24 hours (i.e.no later than 24 hours) after birth.

The Hepatitis B Vaccination

There are **two classes of products available for immunisation against Hepatitis B:**

- A **vaccine** that confers active immunity, and
- A **specific immunoglobulin** that provides passive and temporary immunity while awaiting response to vaccine.

This is administered as:

- The selective neonatal immunisation programme consists of 6 doses of vaccine given intra-muscularly.
- Hepatitis B immunoglobulin, if required (see table 1 in the care pathway below), is given in a dose of 250 IU to the newborn at the time of the first vaccination. It should be given at a different site from the Hepatitis B vaccination.

Indications for Hepatitis Immunoglobulin (HBIG) and Hepatitis B vaccine.

Table 1.

Hepatitis B Status of the pregnant woman	Baby should receive	
	Hepatitis B Vaccine	HBIG
HBsAg positive, HBeAg positive and anti-HBe negative	Yes	Yes
HBsAg positive, HBeAg negative and anti-HBe negative	Yes	Yes
Acute Hepatitis B in pregnancy	Yes	Yes
HBsAg positive, anti-HBeAg positive and HBeAg negative	Yes	No
HBsAg positive and known to have an HBV DNA level to or above 1 million* ($1x10^6$) IU/mLin any antenatal sample during this pregnancy (regardless of HBeAg and Anti-HBe status)	Yes	Yes
HBsAg positive and baby weighs 1500g or less at birth	Yes	Yes

*Mothers with high viral load ($1x10^6$ IU/mlL) even if treated with Lamivudine.

Hepatitis B immunisation schedule for the selective neonatal programme (for infants born on or after July 2024)

- **Babies** born to women with hepatitis B infection should be vaccinated using an accelerated immunisation schedule with a dose of monovalent hepatitis-B containing vaccine at **birth and 4 weeks of age.**

Change in immunisation program to note:

- **From July 2025** children, born to women with Hepatitis B infection, and who were 12 months old on or after 1st July 2025 (born on or after July 2024) will not be offered a 12 month Hep B dose of monovalent Hep B vaccine but from the **1st January 2026** will receive a routine hexavalent dose at a new 18 month appointment.
- Note that eligible children who turn one year of age on or before 30 June 2025 (born on or before 30 June 2024) should continue to be offered a dose of monovalent Hep B vaccine (alongside the other vaccines given at this age) on or after their first birthday.

- Following the change to the routine childhood immunisation schedule introduced in July 2025, children will now receive an additional dose of the hexavalent Hib-containing vaccine at 18 months of age. This DTaP/IPV/Hib/HepB hexavalent booster will be given to replace the dose

of Hib/MenC vaccine previously given at 12 months of age, to provide a dose of Hib-containing vaccine in the second year of life and maintain Hib control.

- The 3 years and 4 months booster visit (for MMR and DTaP/IPV or dTaP/IPV vaccinations

A serology HBsAG blood test should be undertaken alongside the administration of the12-month monovalent vaccine or the 12-18month administration of the hexavalent vaccination (dependant on the birth date of the baby), to check for an adequate response to the vaccines given.

Where there is a delay in the second (4 week) monovalent vaccination, specific guidance on timing of subsequent doses is given in the national guidance document, see link: Guidance) -opens in new tab.

The Hepatitis B vaccination schedule for selected neonatal Hep B programme for children born on or after 1st July 2024.

Age	Babies born to hepatitis B infected mothers	Administered
At birth	✓ Monovalent HepB (+/- Hepatitis B immunoglobulin as per pathway)	in hospital by Paediatricians within 24 hours
4 weeks	✓ Monovalent Hep B	administered by Community Nurses from the HDUHB Health Protection and Immunisation Team, or via GP or PACU by the Paediatric team if more convenient for Parents and Baby
8 weeks	✓ DTaP/IPV/HIB/HepB	at GP surgery alongside other with routine immunisations
12 weeks	✓ DTaP/IPV/HIB/HepB	at GP surgery alongside other routine immunisations
16 weeks	✓ DTaP/IPV/HIB/HepB	at GP surgery alongside other routine immunisations
12-18months **babies born <1/7/24**	✓ Monovalent HepB and blood test for HBsAg	via GP, Nurses from the HDUHB Health Protection and Immunisation team, or via PACU by the Paediatric Team.
18 months **for babies born ≥1/7/24**	✓ DTaP/IPV/HIB/HepB and serology blood test for HBsAg	by Nurses from the HDUHB Health Protection and Immunisation team (at home/clinic)

Vaccinations of Pre-term babies

As there is evidence that the response to hepatitis B vaccine is lower and slower in pre-term, low-birth weight babies it is , important that premature infants receive the full paediatric doses of hepatitis B vaccines on schedule.

Babies born to women with hepatitis B infection, who have a very low birthweight (VLBW) of 1500g or less, should receive HBIG in addition to the vaccine, regardless of the e-antigen status or viral load of the mother. Vaccination should not be withheld or delayed, as the benefit of vaccination is high in this group of infants, and split doses of HBIG can be given in neonates with VLBW.

When vaccination is declined

If mothers who are hepatitis B positive refuse the vaccination of their infants, then this becomes an immediate child protection issue.

The Health Board's Safeguarding Team should be contacted for advice

safeguardingchildren.hdd@wales.nhs.uk ***Duty phone no. 01267 283371***

Multi-Disciplinary Team Care Pathways for pregnant women who are Hepatitis positive

NOTE. This antenatal care pathway must be used in conjunction with the guidance within the ASW Infections and Rashes in Pregnancy -A Guide for health professionals and Factsheet and protocol for Hepatitis B Reactive results in pregnancy accessible via the link below:

Communicable diseases -opens in a new tab

	After having obtaining result
1	• The Antenatal screening midwife will inform the antenatal clinic midwives of the positive result who will contact the woman/ birthing person and arrange a repeat sample as per Antenatal Screening Wales guidance. (Please see difference from positive result and reactive result on the ASW website). • The midwife will provide the woman/ birthing person with an information sheet "Information for pregnant women who are hepatitis B positive" – available from Antenatal Screening Wales website: This information is for you if you are pregnant and have a positive test result for hepatitis B - Public Health Wales- opens in a new tab.
2	• At the time of giving the woman her results a confirmatory sample ,a viral load sample, must be taken • In women who have been newly diagnosed with Hepatitis B it is recommended to expedite the management and ensure that a sample for Hepatitis B DNA is also taken at the time as the confirmatory sample. • Discussion should take place with the woman about the importance of appropriate information sharing. • Where the woman declines to have sensitive information in the notes then see guidance below in step 3 immediately below

3	• The woman/ birthing person should have their pregnancy managed by a Consultant Obstetrician who will liaise with other members of the MDT. An appointment should be made for review immediately following a positive result. • An antenatal paediatric referral should be undertaken, and a neonatal alert sticker should be applied to the front of the folder that contains the All-Wales Maternity Record (AWMR). See appendix • An alert should be actioned on WPAS. **Declining sensitive documentation to be documented in notes** If the woman declines having Hep B status and care plan being documented in the AWMR then an SBAR on WPAS should be completed and any updates should be recorded in the antenatal notes section of WPAS. A paper copy of the SBAR should be completed and sent to: ○ the Operational Lead Midwife for Community and Antenatal Clinic and ○ Operational Lead Midwives for GGH/BGH ○ relevant Labour ward manager in GGH
4	• With the woman's consent, the Consultant Obstetrician will refer the woman to a Consultant Gastroenterologist via the email hepatologycarms.HDD@wales.nhs.uk. • The woman/ birthing person should be reviewed by a Hepatology/ Gastroenterology team within 6 weeks of diagnosis to assess viral load and consider treatment to reduce the woman's viral load. Important -Please state EDD and results of all tests (including viral load). ***If high viral load mother will be treated with Lamivudine in last trimester.***
5.	• The Gastro/ Hepatology teams will undertake contact tracing as necessary of any other household members. • With the consent of the woman/ birth, their GP should be contacted to arrange further testing and immunisations. • Copy in the following immunisation team: ask.hdd@wales.nhs.uk The Laboratory undertaking the ASW communicable diseases screening, will inform the PHW Health Protection of the positive result.
6	• The Antenatal screening midwife in Antenatal Clinic will initiate a referral to the Paediatric Team and email to it to Paediatric.ReferralAcct@wales.nhs.uk. following the 20 weeks anomaly scan and before by 28 week's gestation • Inform the specific paediatric consultant responsible for care of high-risk neonates. They are: Carmarthenshire: Dr Raj Pal (Rajishi.Pal@wales.nhs.uk) Ceredigion: Dr Alzbeta Kolenova (Albezeta.Kolenova@wales.nhs.uk) Pembrokeshire: Dr Matt Pickup (Matthew.Pickup@wales.nhs.uk)

7	• If mother is Hepatitis B positive and HBeAg positive OR no HBe markers or HBe Ab negative, the viral load will be measured by the virology lab. • If there is acute Hepatitis B during pregnancy, viral load is to be measured and monitored by the gastroenterology
8	• Consultant Microbiologist/Virologist will write to the Consultant in the Neonatal Unit, Antenatal Screening Midwife' and Consultant Obstetrician with advice. This letter should be uploaded on to 'Clinical Letters' on WPAS and Welsh Clinical Portal
9	• If **HBIG is indicated,** an order form is to be actioned by the Gastroenterologist/ Hepatology team and completed by the ASMW and sent to pharmacy so that the gamma globulin is available in the Dinefwr Ward/SCBU fridge prior to delivery of baby.
10	• The ASW midwife and Midwifery ward managers will work collaboratively and confirm with pharmacy that the gamma globulin (HBIG) is ordered and stored in the postnatal fridge in Dinefwr/Gwenllian ward fridge. One spare dose of gamma globulin to be kept in the Dinefwr Ward.
11	**Birth outside Hywel Dda Health Board** • When a woman or birthing person is moving out of the Health Board's area then information sharing should be discussed, and consent gained for information which outlines the current care pathway, blood tests results, medications taken and contact details for all health care professionals involved in her/ their care. • If the woman/ birthing person is transferred to another Health Board because birth is expected before 32 week's gestation, or birthweight is expected to be less than1500g, or for any other concern, then information should be included with the in-utero transfer form that includes the plan for HBIG and Hep B Vaccinations so that this can be arranged by the receiving Health Board. The PHW Health Protection Team should be notified at Public Health Wales (0300 00 300 32). • If the woman/ birthing does not wish for sensitive information to be placed in their AWMR or on the digital notes, then the MDT care plan will be provided by the ASW midwife to the new area's midwifery, neonatal, obstetric, gastroenterology / hepatology counterparts. They should also inform the Health Protection Team and the Immunisation Team of the transfer of care.

During Labour and Birth Care Pathways for women who are Hepatitis positive.

1.	• Women who present in labour with **undocumented** Hep B status and are deemed to be at risk of Hep B or other communicable disease should undergo urgent testing. This should be done in consultation with the Consultant Microbiologist (this requires a consultant -to-consultant dialogue.

2	• **Avoid:** use of fetal scalp electrode (FSE), birth by forceps or ventouse (kiwi cup)or Fetal Blood Sampling (FBS), when caring for a woman tested positive for Hepatitis B or/and Hepatitis C. • Where an assisted or instrumental birth (using vacuum or forceps) has occurred, or a fetal scalp electrode has been applied, it does not necessarily then indicate a need for Hepatitis B Immunoglobulin G. # **Please note**, the Maternity Service in Hywel Dda University Health Board do not carry out FBS' unless there are extenuating circumstances.
3.	**Women/ having a homebirth (planned or unplanned) or birthing in a Midwife-led Unit,** should be transferred with their baby to: • **Glangwili Hospital** following birth so that the infant can be reviewed by the paediatrician and receive HBIG/ Hep B vaccination. • Transfer to **Gwenllian Ward**, Bronglais Hospital, can occur for the 1st monovalent vaccination for those babies born to mothers with an uncomplicated pregnancy **and who have a paediatric plan of care plan in place for the 1st monovalent vaccination on Gwenllian at Bronglais Hospital**. The paediatric care plan should state the location to attend, where the vaccine will be stored, and the paediatric clinician responsible for vaccinating along with contact details. • **Where babies have been born to mothers/ Birthing persons who have not accessed antenatal care due to their pregnancy being concealed, or not known, should be transferred to GGH for a paediatric review and risk assessment for a monovalent Hep B vaccination.**

Post Birth Multi-Disciplinary Team Care Pathways women who are Hepatitis positive

1.	• **Paediatric doctor** to give mother the ASW Information sheet on Positive Hepatitis B results (open in a new tab) in pregnancy, if not already given, and a copy to be put in baby's red book. • **Paediatrician** to confirm that mother understands information **and Mother to sign consent for HBIG (if indicated) and first Hep B vaccination**
2	. Hepatitis B gamma globulin (HBIG) If the HBIG is required, the on-call Paediatric Doctors are to: ❖ Obtain written consent from parent. Administer to the neonate as soon as possible after birth. ❖ Aim to give 100% within 24 hours of the birth dose of vaccine and within 7 days following birth

	❖ Record batch no. in notes. The dose is 250 IU given intramuscularly. Note if using an adult vial of 500 units, you will need to draw up 1/2 of the volume of the vial. The volume is variable but is stated on the vial. ❖ Complete form accompanying the HBIG and return to Pharmacy.
3.	Paediatrician is required to explain to the mother/carer the need to complete all the vaccinations and will require blood testing to be undertaken at 12-18months of age. The conversation must be documented in notes and any parental/ carer queries answered.
4.	**<u>Documentation and Notifications of</u>** Vaccinations (+/- HBIG) to be recorded in: ☐ by paediatrician vaccinator in the Child's Personal Child Health Record (PCHR) also known '**Red book'** , ☐ Hospital notes by vaccinator ☐ Postnatal notes (paper or digital) by Midwife (so that CMW's are aware that it has been given without having to enquire). ☐ On the 'Discharge from Hospital' form digital or paper copy) by the discharging midwife with follow up required: i.e. a 4 week of age vaccination with the 2nd does of the monovalent Hep B vaccine. ☐ Notification of 1st vaccination and follow-up schedule (see below) with copies sent as below by Paediatric Doctor. Child Health Department by Unscheduled Form (for vaccination history record on CYPRIS) by Paediatric Doctor or Vaccinator **Ceredigion:** phone - 01970 635 551 email - SeniorChild.SupportServices.HDD@wales.nhs.uk **Carmarthenshire:** phone - 01267 2833 (63, 64, 65, 66) email: HDD.Carms.ChildHealth@wales.nhs.uk **Pembrokeshire:** phone: 01437 773 845 email: ChildHealth.Pembs.HDD@wales.nhs.uk ☐ Public Health Wales Hep B Neonatal Database email: aware@wales.nhs.uk ☐ Community Nurse from the HDUHB Health Protection and Immunisation Team ask.hdd@wales.nhs.uk and ☐ Senior Nurse Health Protection and Public Health: Ginny.Morgan2@wales.nhs.uk ☐ Child's GP.
5.	▪ **<u>*Important *</u>** ▪ The vaccinating Paediatric Doctor should complete the Neonatal Hepatitis referral form/ notification form either digitally via referral form -opens in a new tab (Microsoft form) **or** via the paper referral notification form (see appendices) and send to ask.hdd@wales.nhs.uk for follow-up care and further non-routine vaccinations with the Health Protection and immunisation Team. This should include indication for Hepatitis B accelerated immunisation programme, mother's serology results, and a request

follow-up appointment with the team in 4 weeks (please give date required) for the 2nd monovalent Hep B vaccine.

- **Copies of the notification form must be sent by the immunisation paediatrician via email to:**

1. **Consultant Paediatrician**
2. **GP**
3. **Health Visitor affiliated with GP surgery**
4. **Central Child Health Clinic**
5. **Antenatal and Newborn Screening Midwife (who will inform the Health Protection Team)**
6. **HDUHB Senior Nurse for Health Protection and Immunisation and team**

In addition, the hospital **midwife responsible for discharging the** mother and baby will also hand over to antenatal screening midwife responsible for antenatal care, community midwives and HV team what immunisations/immunoglobulin the neonate has received and the plan for 4-week second monovalent Hep B vaccine.

Documentation Summary at time of discharge from hospital setting
As already mentioned, the initial Hep B monovalent vaccine and plan for further doses should be recorded in:

- The PCHR/"*Red book"* by the **neonatal team** on the postnatal ward and ensure the book is sent home with the mother/birthing person and the new-born.
- Neonatal discharge summary on **WPAS/ Badgernet** to be completed by **the midwifery staff on the postnatal ward**. Paper forms should be posted and electronic copies emailed it to the GP and HV responsible for the baby's care. Copies of such should be placed in the maternal and neonatal discharge notes that are sent home with mother/birthing person/baby's guardian.
- The **electronic postnatal discharge summary** from hospital/ midwifery services summary on Badgernet.
- In the '**Discharged from Hospital' form** and send to CMW's and Health Visitors responsible for care of the family. Document routine and non-routine vaccine requirements details (including the date the 4-week vaccination is required).

Discuss with mother/birthing person/baby's guardian the importance of the follow up of the 4-week monovalent vaccination. Inform them when their baby is due the 4-week vaccinations and that the Community Nurse Immuniser from the Health Protection and Immunisation Team will be in contact to arrange an appointment.

Ongoing Pathway of Care in Community

- **The responsible Paediatric Dr working under the named Consultant for Carmarthenshire, Ceredigion, and Pembrokeshire**, will contact the relevant bodies as listed below with the names of any infants that have been born to Hep B positive

	mum and has received their first monovalent Hep B vaccine as per accelerated Hep schedule (and HBIG if applicable) ▫ PHW Health Protection Team AWARe@wales.nhs.uk), ▫ Health Visiting team (see list in the addendum), ▫ Child health Department Ceredigion SeniorChild.SupportServices.HDD@wales.nhs.uk Pembrokeshire ChildHealth.Pembs.HDD@wales.nhs.uk Carmarthenshire HDD.Carms.ChildHealth@wales.nhs.uk ▫ HDUHB Health Protection and Immunisation Team (ask.hdd@wales.nhs.uk),
	To ensure adequate immunity Hepatitis B vaccinations are required at birth, 4 weeks, 8 weeks, 12 week, 16 weeks, and 18 months. **Appointments for further doses will be organised by HDUHB's Health Protection and Immunisation Team.** • **Baby needs blood test HBsAG and Anti-HBs at 12 –18 months to test for infection and vaccine response.** *Poor vaccine responders should receive a booster dose, and non-responders should receive a repeat course of vaccination (this is at the Paediatrician's discretion as per local protocol and not in National Guidance).*
	• HDUHB Health Protection and Immunisation team to contact the family following the birth and provide the parents with an appointment time at 4 weeks old for the 2nd monovalent vaccine. • If no appointment has been made, the family Health Visitor is required to contact the HDUHB Health Protection and Immunisations Team on Email: ask.hdd@wales.nhs.uk copying in angelo.rossi@wales.nhs.uk, fay.sims@wales.nhs.uk and Ginny.Morgan2@wales.nhs.uk for an urgent appointment to be arranged.
	Failure to Attend (consistent DNA) to subsequent appointments, follow vaccination policy. If consistent DNA the clinician who is leading the missed appointment must: • Notify health visitor, GP and practice nurse immediately. • Notify PHW Health Protection Team, who will inform HDUHB Health Protection and Immunisation Co-ordinator. • Notify Child Protection/ HDUHB Children's Safeguarding Lead if there are concerns regarding parents/ guardians disengaging with Community Nurse Immunisers **or** declines further vaccinations when all avenues of communication cannot identify / put in place an agreeable solution
	• Protection Health visitor, Immunisation nurses and GP to encourage family to ensure child is brought to GP clinic for subsequent hexavalent doses at 2, 3, 4, and 18 months.

	• HV to check with parents that appointments are arranged for the 12-18month serology to be undertaken alongside the 18-month routine immunisation by the HDUHB Health and Immunisation Team.
	• HPT manage the PHW Hep B neonatal database and use child health database (CYPRiS) to check that the Hep B vaccine schedule is being followed in prompt manner. • HPT to investigate any apparent delayed or missed doses by liaising with neonatal clinic (if the monovalent at 4 weeks is missed/delayed) or HV service (if the hexavalent vaccines are missed/delayed). • Immunisation co-ordinator to be copied in for information.
	• Health Visitor is required to inform HPT (AWARE@wales.nhs.uk) if child on caseload, who is currently on the selective Hepatitis B schedule, moves out of area into a different health board **or** if a child who is on the selective Hepatitis B schedule has moved into the area. The Health Visitor to advise the HPT (AWARE@wales.nhs.uk) of any Hepatitis B vaccines already received and, on the advice of the HPT, to then ensure any missed vaccines are followed up.
	• All Hepatitis B vaccines is to be recorded on CYPRiS (Child Health Dept) and on the Public Health Wales Hep B Neonatal database (HPT)
	• Any significant delays with the child receiving any Hepatitis B vaccine as per schedule, needs to be highlighted at the Strategic Immunisation Group who will review current guidance and practice.

References:

Antenatal Screening Wales (ASW),Public Health Wales. Available from share point Infections and Rashes in Pregnancy. A guide for Professionals. -opens in a new tab

Antenatal Screening Wales, Public Health Wales (2023). Available from SharePoint. Antenatal Screening Wales, Policy, Standards and Protocols. -opens in new tab
British Association for Sexual Health and HIV (BASHH) 2017. Management for Viral Hepatitides. Available at Management for Viral Hepatitides 2017 | BASHH -opens in a new tab

Department of Health. UK Immunisation against infectious diseases the green book Immunisation against infectious disease - GOV.UK -opens in new tabHepatitis B: the green book, chapter 18 - GOV.UK- opens in a new tab

Greenbook title page and index -opens in a new tab.

NICE guideline, NG 201, (August 2021) **Overview | Antenatal care | Guidance | NICE** -opens in a new tab

Appendix 1. Checklist for the management of Hepatitis B Positive results in pregnancy

Part 1.Antenatal checklist-To commence at time of identification of woman who is Hepatitis B positive			
Addressograph	**Community Midwife:** **Consultant Obstetrician:** **EDD:** **Date of Screening result:** **Date of 1st positive result:** **Initial viral load taken:**		
ACTION	**PERSON RESPONSIBLE**	**COMMENTS**	**DATE & SIGNATURE**
Lower infectivity result ☐ Higher infectivity result ☐	Obstetric Team		
Date woman notified _____ *Suitable arrangements should be made for women to return to antenatal clinic for their results as per ASW standards*	Antenatal Clinic Midwife		
Confirmatory screen and viral load bloods taken at the time of recall for results *Please state 'antenatal confirmatory tests and HBV Viral Load' on form*	Antenatal Clinic Midwife		
Antenatal Screening Wales (ASW) leaflet given – Information for Women who are Hepatitis B Positive	Antenatal Clinic Midwife		
Refer to consultant led care – next available appointment	Antenatal Clinic Midwife		
Date and sign All-Wales Maternity Record and include plan of care and actions taken to date – with consent. *If the woman **does not wish** for documentation in her handheld record, then:*	Antenatal Clinic Midwife		

• Complete an SBAR on WPAS and send a copy of the plan should be sent to the Labour Ward Manager/ Operational Lead Midwife for Community and Antenatal Clinic /Operational Lead Midwife for GGH/BGH by antenatal clinic • An 'Alert' should be actioned on WPAS • A 'neonatal alert' sticker should be applied to the front cover of the maternity of folder which contains the AWMR			
Inform obstetrician, antenatal screening midwife responsible for care, GP, and community midwife with consent. Antenatal Screening Midwife: Pembrokeshire: **antenatal.withybush@wales.nhs.uk** Carmarthenshire: **generic.account14dd21@wales.nhs.uk** Ceredigion: **bronglais.antenatalclinic@wales.nhs.uk** *PHW HEALTH PROTECTION TEAM SHOULD BE AUTOMATICALLY INFORMED BY THE LAB – THIS WILL BE CONFIRMED BY THE SCREENING MIDWIFE*	Antenatal Clinic Midwife		
Referral to gastroenterologist/hepatologist once confirmatory screen completed and eAg/eAb status is known (complete paper referral form) Email to: hepatologycarms.HDD@wales.nhs.uk	Obstetric team/ Screening Midwife		

Part 2. Antenatal – complete at the time of first Obstetric Antenatal appointment			
ACTION	**PERSON RESPONSIBLE**	**COMMENTS**	**DATE & SIGNATURE**
Antenatal paediatric Referral to Consultant Paediatrician Email: paediatric.referralacct@wales.nhs.uk Paediatric referral should be made within 10 working days of the woman receiving the result. Arrangements to be made for neonatal plan of care for infants born to women who are Hepatitis B positive to ensure rapid treatment post-birth A 'Neonatal Alert' sticker should be applied to the front of the folder that holds the AWMR to alert midwives and obstetricians that there is a postnatal care plan for baby post birth.	Obstetric team/ ANC midwife		
Further discussion with the woman regarding household transmission, treatment plan and vaccinations for baby along with any other information guided by the obstetrician	Obstetric team		
Future appointments arranged including repeat viral load screen at 28/40 :	Obstetric team		
Antenatal -When Lower infectivity result			
ACTION	**PERSON RESPONSIBLE**	**COMMENTS**	**DATE & SIGNATURE**
Ensure prescription available for Hepatitis B vaccine for infant *To be administered within 24 hours of birth by paediatrician*	Paediatric team		
28/40 bloods arranged for viral load *If high viral load – move on to higher infectivity plan and inform screening midwife*	Obstetric team		
Antenatal – When Higher infectivity result			
ACTION	**PERSON RESPONSIBLE**	**COMMENTS**	**DATE & SIGNATURE**
Ensure HBIG ordered by via Pharmacy from: Department of Virology, Public Health Wales, Microbiology, Cardiff Tel: 029 21 84217 *Inform screening midwife and she will do this – this is only required if indicated by the lab/gastro team*	Antenatal screening midwife		
Ensure 28/40 bloods for viral load are taken	Obstetric team		

Ensure HBIG available on Dinefwr/Gwenllian/SCBU fridge approx. 6 weeks prior to EDD	Antenatal screening midwife		

On Labour Ward

Labour Ward – **If Lower infectivity result**.
Please note: Babies born weighing less than 1500g will need HBIG and should be managed as per higher infectivity result post-birth.

ACTION	PERSON RESPONSIBLE	COMMENTS	DATE & SIGNATURE
On admission to delivery suite ensure vaccination is available	Labour Ward midwife		
Alert paediatric team of admission	Labour Ward midwife		
Ensure vaccination administered within 24 hours of birth	Paediatric team		
Ensure documentation completed and returned	Paediatric team		
Comprehensive handover to postnatal staff	Labour Ward midwife		

Labour Ward – If **higher infectivity result**.
Please note: Babies born weighing less than 1500g will also require HBIG even if lower infectivity result antenatally

ACTION	PERSON RESPONSIBLE	COMMENTS	DATE & SIGNATURE
On admission to labour ward/MLU, or if a homebirth then the midwife caring for the woman should check Dinefwr Ward has vaccination and HBIG available *HBIG should be stored in LW fridge 6 weeks prior to EDD. Contact pharmacy if this is not available, emergency dose stored there.*	Labour ward/ MLU/ CMW midwife		
Alert paediatric team of admission	Labour ward/CMW/ MLU Midwife		
Following birth - administer HBIG and vaccination separately – see pathway	Paediatric team		
Comprehensive handover to postnatal staff	Labour ward/ MLU/ CMW midwife		
Ensure HBIG/vaccination status recorded on CYPRIS, hospital notes, ‘Red Book’ and sent to Child Health,	Paediatrician		

Vaccination, +/- HBIG given should be recorded in Postnatal notes, 'Discharge from Hospital' form and be sent to CMW's and Health visitors.	Postnatal midwife		

Part 4. Postnatal

ACTION	PERSON RESPONSIBLE	COMMENTS	DATE & SIGNATURE
Importance of completing vaccination schedule discussed with woman and documented	Paediatric team		
Referral to HDUHB Health Protection and Immunisation team for the 2nd monovalent vaccination with a date it should be administered	Paediatric team		
Documentation that Mother/Parents /Guardian are informed of the date that the 4-week vaccinations is due.	/Paediatric team		
Clearly document that 1st vaccination (and HBIG if relevant) has been given in postnatal notes and red book.	Paediatrician/ team		
Ensure hepatitis B information is clearly documented on the discharge notification and state that baby is on accelerated Hep B programme and date of when the next vaccination is due (This will need to be added as a note in the discharge details)	Postnatal ward midwife		
Email discharge summary to CMW's and HV's. Include details of Hep B/ HBIG/ vaccination given and include the date the next vaccination is due. Email to HV and CMW	Postnatal ward Midwife		
Discharge notification to be sent to Health Protection Team & Immunisation Team	Screening midwife		
On discharge from Maternity services or SCBU, ensure a documented handover of care to HV Team with the plan for follow-up vaccinations.	CMW/ Paediatrician//SCBU Team		

Appendix 2 .Health Visitor contact details

Ceredigion South (Generic & Flying Start)

Email: ceredigionHVsouth.hdd@wales.nhs.uk

Surgeries:	Cardigan Llynyfran (Teifi) New Castle Emlyn (NCE)

Ceredigion North (Generic & Flying Start)

Email: ceredigionHVnorth.hdd@wales.nhs.uk

Surgeries:	Llanybydder Lampeter Ystwyth Padarn Borth Llanillar Church Aberaeron Tregaron New Quay

Llanelli (Generic & Flying Start)

Email: llanelliHVteam.hdd@wales.nhs.uk

Surgeries:	Talybont Llangennech Llwynhendy HC Ty Elli Fairfield Ashgrove Avenue Villa Burry Port Kidwelly

Carmarthen, Ammanford & Gwendraeth (Generic & Flying Start)

Email: carmarthenHVteam.hdd@wales.nhs.uk

Surgeries: Carmarthen	Morfa Lane St Peter's Furnace House Coach & Horses Meddygfa Tywi Meddygfa Taf Llandeilo Llandovery
Ammanford:	Margaret Street Brynteg Amman Tawe

Gwendraeth:	Crosshands HC Tumble Pontyberem Pontyates

Pembrokeshire North

Email: fishguardnorthpembshv.hdd@wales.nhs.uk

Surgeries:	Fishguard HC Crymych St David's Solva Narberth Newport

Pembrokeshire South (Generic & Flying Start)

Email: pembrokeshirehealthvisiting.hdd@wales.nhs.uk

Surgeries:	Winch Lane St Thomas's Barlow House Manchester Square Neyland Argyle Street Tenby Saundersfoot Kilgetty

Appendix 3. Referral Form Hepatology and Gastroenterology

Referral to Hepatology/ Gastroenterology

Hospital number:
Date of birth:
Address:

Date: ……/……/…….

EDD:……..

Phone No……..:

Dear Hepatology/ Gastroenterology Team,

Please accept this referral for:*(Name)*……,who is …… weeks pregnant and has tested positive for hepatitis B during her antenatal screening. A referral to an obstetric consultant clinic has been made and an appointment is arranged for: *(date)* …….

A confirmatory blood sample has been sent and a viral load requested.

The virology lab has informed us that her baby will/ will not require immunisation with Hepatitis B immunoglobulin (HBIG) at birth and this has been ordered (if applicable baby will also require Hepatitis B vaccination at birth.

We would be grateful if you would review at your earliest convenience.

Kindest Regards

Antenatal and Newborn Screening Midwife/ Co-ordinator

Pembrokeshire: **antenatal.withybush@wales.nhs.uk**

Carmarthenshire: **generic.account14dd21@wales.nhs.uk**

Ceredigion: **bronglais.antenatalclinic@wales.nhs.uk**

Email the completed form to: hepatologycarms.HDD@wales.nhs.uk

Appendix 4: Selective Hep B vaccination requirements notification form

Selective Hepatitis B vaccination Requirements Notification form

Bwrdd Iechyd Prifysgol Hywel Dda University Health Board

Infant name
DOB
Address

Date……/……/……..

Dear CONSULTANT PAEDIATRICIAN,

This infant was born to a mother with hepatitis B / with hepatitis C infection / at risk of hepatitis B **(*please delete as appropriate*)** and requires an accelerated hepatitis B immunisation course.
A referral to the HDUHB Health Protection and Immunisation team was made on…….. …. and a request for the 2nd dose to be given at 4 weeks of age……

Gestation at birth: Mode of delivery: Birth weight:

Maternal serology: (please complete all details)

HEP B

Hb S Antigen:	☐ +ve ☐ -ve	Anti HBS Ag:	☐ +ve ☐ -ve
Hb 'e' antigen:	☐ +ve ☐ -ve	Anti Hbe antigen:	☐ +ve ☐ -ve
Hep B core IgG:	☐ +ve ☐ -ve	Hep B core IgM:	☐ +ve ☐ -ve

HEP C

Anti HCV antibody:	☐ +ve ☐ -ve
HCV PCR:	☐ +ve ☐ -ve ☐ Unknown

HIV

HIV serology:	☐ +ve ☐ -ve

Immunisation / immunoglobulin:

1st Hep B immunisation ☐ Given ☐ Not given Date given : / / Batch No.:

Immunoglobulin: ☐Given ☐ Not given Date given / / Batch No.:

2nd Hep B monovalent vaccination due: / /

Please ensure the referral form is fully completed. I would be grateful if you would ensure your records are updated.
The Community Nurse Immunisers from HDUHB Health Protection and Immunisation Team will make contact and arrange the consequent routine vaccination due or 12-18months of age (or at 12 months with the monovalent vaccination depending on birth date) and carry out the serology testing. Other routine hexavalent vaccinations will be given at 8 week,12 week and 16 week as per 'The Green Book'.
Kindest Regards

Name ……. Designation: ……Hospital GGH/ BGH *(please circle)*

Copy to: GP, Child Health Department for Antenatal and Newborn Screening Midwife responsible for care

Appendix 5: Paper referral form for HDUHB Health Protection and Immunisation Team: for 2nd Hep B Monovalent at 4 weeks of age

Referral form for HDUHB Health Protection and Immunisation Team:

for 2nd Hep B Monovalent at 4 weeks of age.

This Baby has been identified as being at risk of Hepatitis B and requires a further dose of the Hep B monovalent vaccination by HDUHB Health Protection and Immunisations Team.

Please complete in full and send to ask.hdd@wales.nhs.uk

Date:	
Name of referrer:	
Role of referrer: Contact details of referrer:	
Baby's Name:	
Baby's DOB:	
Baby's NHS number:	
Mother/Guardian's Name: Address: TEL:	
Baby's GP surgery	
Health Visitor (*base and name*):	
Date of first monovalent vaccination	
Date 2nd Hep B monovalent vaccine is due: (4 weeks following the first vaccination)	