<table>
<thead>
<tr>
<th>Title of Guideline (must include the word “Guideline” (not protocol, policy, procedure etc))</th>
<th>Guideline for the Management of Babies born to Mothers Infected with Hepatitis B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author: Contact Name and Job Title</td>
<td>Stylianie Tsilika, Registrar- NICU</td>
</tr>
<tr>
<td></td>
<td>Kumar Swamy, Specialty Doctor- NICU</td>
</tr>
<tr>
<td></td>
<td>Steve Ryder, Consultant Hepatologist</td>
</tr>
<tr>
<td></td>
<td>Will Irving, Consultant Virologist</td>
</tr>
<tr>
<td></td>
<td>Louise Berry, Registrar, Virology</td>
</tr>
<tr>
<td></td>
<td>Adapted from Version 2: H. Clements, S. Watkin, C. Rands, C. Charlton</td>
</tr>
<tr>
<td>Directorate &amp; Speciality</td>
<td>Family Health, Neonatal Medicine</td>
</tr>
<tr>
<td>Date of submission</td>
<td>06/06/2018 (Minor updates from 7.2.2018)</td>
</tr>
<tr>
<td>Explicit definition of patient group to which it applies (e.g. inclusion and exclusion criteria, diagnosis)</td>
<td>Babies of Mothers Infected with Hepatitis B</td>
</tr>
<tr>
<td>Version</td>
<td>6 (Minor updates from version 5)</td>
</tr>
<tr>
<td>If this version supersedes another clinical guideline please be explicit about which guideline it replaces including version number.</td>
<td>5</td>
</tr>
<tr>
<td>Key Words</td>
<td>Hepatitis B, HBV</td>
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**Statement of the evidence base of the guideline – has the guideline been peer reviewed by colleagues?**

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>NICE Guidance, Royal College Guideline, SIGN (please state which source).</td>
</tr>
<tr>
<td>2a</td>
<td>meta analysis of randomised controlled trials</td>
</tr>
<tr>
<td>2b</td>
<td>at least one randomised controlled trial</td>
</tr>
<tr>
<td>3a</td>
<td>at least one well-designed controlled study without randomisation</td>
</tr>
<tr>
<td>3b</td>
<td>at least one other type of well-designed quasi-experimental study</td>
</tr>
<tr>
<td>4</td>
<td>well –designed non-experimental descriptive studies (ie comparative / correlation and case studies)</td>
</tr>
<tr>
<td>5</td>
<td>expert committee reports or opinions and / or clinical experiences of respected authorities</td>
</tr>
<tr>
<td>6</td>
<td>recommended best practise based on the clinical experience of the guideline developer</td>
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</tbody>
</table>

**Consultation Process**

<table>
<thead>
<tr>
<th>Neonatal Staff, Obstetrics, Virologists, Hepatologists</th>
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</table>

**Ratified by:**

<table>
<thead>
<tr>
<th>Neonatal guideline consultation group</th>
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<tr>
<td>Feb 2018</td>
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</table>

**Target audience**

<table>
<thead>
<tr>
<th>All neonatologists, midwives, obstetricians</th>
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**Review Date: (to be applied by the Integrated Governance Team)**

| 1.2.2023 |

A review date of 5 years will be applied by the Trust. Directorates can choose to apply a shorter review date, however this must be managed through Directorate Governance processes.

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This guideline has been registered with the trust. However, clinical guidelines are guidelines only. The interpretation and application of clinical guidelines will remain the responsibility of the individual clinician. If in doubt contact a senior colleague or expert. Caution is advised when using guidelines after the review date.

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**Summary of changes for new version:**

- Forms to be sent to GPs and Child Health Record Department
- Update on Hepatitis B vaccination schedule
5.1 INTRODUCTION/BACKGROUND

The World Health Organisation (WHO) estimates that over 350 million people worldwide have chronic Hepatitis B infection. The virus is transmitted by parenteral exposure to infected blood or body fluids. Overall, the prevalence of Hepatitis B in antenatal women in the UK is around 0.14%. Chronic infection occurs in 90% of those infected perinatally. However, chronic infection after perinatal transmission can be prevented in over 90% of cases if they are vaccinated appropriately\(^1,2\).

Routine screening for infectious diseases is offered to all pregnant women in order to reduce adverse perinatal outcomes by treating appropriately. It is also important that children who are at risk of Hepatitis B due to parent’s lifestyle or family reasons (infected parent or close family member) are managed in a timely manner\(^3\).

The policy outlines the management of women in pregnancy and the subsequent management of their babies exposed to Hepatitis B.

5.2 SCREENING FOR HEPATITIS B (HB) IN PREGNANT MOTHERS

Management of women whose Hepatitis B status is unknown at the time of delivery

If the mother is:

- **Booked in Nottingham**
  
  It is assumed that the mother’s Hepatitis B status is known and is negative

- **Booked in unit other than Nottingham**
  
  1. Neonatal Doctor to contact GP/Referral hospital to ascertain maternal HB status
  2. If unable to obtain / no result available, take maternal blood for HBsAg, HBeAg and anti-HBe. Send blood urgently to microbiology - mark as urgent on request form and inform lab staff of imminent arrival of specimen. Result required within 24 hours of delivery so that baby can be appropriately treated.
  3. Babies should ideally receive vaccine and Hepatitis B immunoglobulin (HBIG) within 24 hours. If result not available until after 24 hours, vaccination should still go ahead. If the maternal test is HBsAg positive, HBIG should be administered to the baby as soon as possible. Document in baby notes the reason for delay.

- **Unbooked**
  
  1. Midwife to take blood for urgent HBsAg, HBeAg and anti-HBe. Send blood urgently to microbiology – mark as urgent on request form and inform lab staff of imminent arrival of specimen. Result required within 24 hours of delivery so that baby can be appropriately treated.
  2. Babies should ideally receive vaccine and HBIG within 24 hours. If result not available until after 24 hours, vaccination should still go ahead. If the maternal test is HBsAg positive, HBIG should be administered to the baby as soon as possible. Document in baby notes the reason for delay.

Management of women who is found to have Hepatitis B (HB) carriage and their babies

1. Women found to have chronic hepatitis B on antenatal screening at NCH and QMC should be referred to Dr Steve Ryder, Consultant Physician/Hepatologist at the Queen’s Medical Centre. Dr Ryder will investigate the mothers and advise them and yourself if any treatment would be useful. He will continue surveillance of these mothers in his clinic.
2. The management of the baby will be divided into two groups according to the infectious status of the mother. Assuming the baby is to be born in hospital this will be co-ordinated by the neonatal team.

a) **High infectious group** –
   1. Mother is HBsAg +ve and HBeAg +ve
   2. Mother is HBsAg +ve, HBeAg –ve and anti HBe –ve
   3. Mother is HBsAg seropositive and known to have an HBV DNA level equal or above $1 \times 10^6$ IU/ml in an antenatal sample

In the above situations there are high levels of the virus in the blood of mothers with high infectious status. To prevent the baby acquiring carriage, which is most likely to take place around birth, a dose of hepatitis B immunoglobulin and the monovalent hepatitis B vaccine should be given within 24 hours of birth. HBIG may be given at the same time as the vaccine but at a different site. The baby should then have follow up monovalent hepatitis B vaccines at 1 and 12 months of age. The baby will additionally have Hepatitis B vaccines as part of their routine vaccines at 2, 3 and 4 months of age as per the recent changes in the routine primary baby immunisation programme (hexavalent combination vaccine). The course should ideally be completed with the same vaccine brand throughout. At 12 months of age the babies should have a blood test to check the HBsAg and anti HBs Ag antibody. The babies who are HBsAg positive at this point, should be referred to the Paediatric Gastroenterology team at Queens Medical Centre, Nottingham. Presence of anti-HBsAg antibody shows that the baby has acquired immunity. This would be further enhanced by the booster immunisation at 12 months. Following this immunisation programme is expected to bring down the risk of acquiring Hep B infection or carrier status from 9/10 to 1/20 in these high risk babies.

b) **Low infectious groups** – mother who is HBsAg positive and anti-HBe positive with HBV DNA below $10^6$ IU/ml. The babies in this group, which will make up the biggest proportion, are at less risk of acquiring the infection, as the viral load in the mother’s blood is at much lower level. It is recommended that these babies should have a course of the monovalent Hepatitis B vaccine alone at birth within 24 hours, and at 1 and 12 months. These babies will also need to have Hepatitis B vaccines as part of their routine vaccines at 2, 3 and 4 months of age as per the recent changes in the routine primary baby immunisation programme (hexavalent combination vaccine). The course should ideally be completed with the same vaccine brand throughout. At 12 months, they should also have the same blood test as above.

c) Women should be reviewed by their consultant obstetrician for further discussion of the implications of their hepatitis B status for their pregnancy and their unborn baby.

A small number of mothers who are assessed in hepatology will be treated with oral antivirals (e.g. Tenofovir) during the last trimester of pregnancy and for at least one month after delivery. Such mothers will have high infectivity documented previously and therapy is designed to reduce the viral load to lower levels at the time of delivery. Such mothers should continue to be regarded as high risk and babies should therefore receive both vaccination and HBIG and continue with the immunisation schedule even if the mother’s immediate pre-delivery bloods show low levels of HBV DNA.

REMEMBER THE HEPATITIS B VACCINE PROGRAMME FOR ALL THESE BABIES WILL BE THE MOST IMPORTANT VACCINATION ALONG WITH THE UNIVERSAL VACCINATION PROGRAMME AS THEIR RISK OF ACQUIRING HEPATITIS B IS MUCH GREATER.

If parents refuse Hep B vaccination, discuss with neonatal consultant as there may be safeguarding implications.

3. **Partners and children of women identified to have chronic hepatitis B on antenatal screening.**

It is very important, and the recommendation of the DOH, that all the partners and the children of women found to have hepatitis B surface antigen carriage on antenatal screening are screened. To be divided into three groups and acted on appropriately.

a) Screened and found to be hepatitis B surface antigen positive (chronically infected). The adults should be referred on to Consultant Hepatology (Dr. Ryder) and the children should be referred on the Paediatric Gastroenterologists.
b) Hepatitis B surface antigen negative, anti-HB core antibody positive. This group has natural immunity from resolved infection. They should be reassured that they will not acquire hepatitis B in the future and no further action is required.

c) Hepatitis B surface antigen negative, anti-HB core antibody negative. This group has no natural immunity and needs a course of immunisation. The adults should have a course of immunisation arranged.

5.3 HEPATITIS B INFANT VACCINATION PROGRAMME

Indications:

<table>
<thead>
<tr>
<th>Hepatitis B status of mother</th>
<th>Baby should receive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hepatitis B vaccine</td>
</tr>
<tr>
<td>Mother is HBsAg +ve and HBeAg +ve</td>
<td>Yes</td>
</tr>
<tr>
<td>Mother is HBsAg +ve, HBeAg –ve and</td>
<td>Yes</td>
</tr>
<tr>
<td>anti HBe –ve</td>
<td></td>
</tr>
<tr>
<td>Mother is HBsAg +ve where e-markers</td>
<td>Yes</td>
</tr>
<tr>
<td>have not been determined</td>
<td></td>
</tr>
<tr>
<td>Mother had acute hepatitis B during</td>
<td>Yes</td>
</tr>
<tr>
<td>pregnancy</td>
<td></td>
</tr>
<tr>
<td>Mother HBsAg +ve and anti-HBe +ve</td>
<td>Yes</td>
</tr>
<tr>
<td>with HBV DNA &lt;1x10^6IU/ml</td>
<td></td>
</tr>
<tr>
<td>A woman who HBsAg seropositive and</td>
<td>Yes</td>
</tr>
<tr>
<td>known to have an HBV DNA level</td>
<td></td>
</tr>
<tr>
<td>equal or above 1x10^6IU/ml in an</td>
<td></td>
</tr>
<tr>
<td>antenatal sample</td>
<td></td>
</tr>
<tr>
<td>Mother is HBsAg +ve and baby weighs</td>
<td>Yes</td>
</tr>
<tr>
<td>1500g or less</td>
<td></td>
</tr>
</tbody>
</table>

Vaccination of term babies according to the Hepatitis B status of the mother – Green Book¹

Transmission is 25% overall without immunisation. 90% of affected babies may go on to get chronic infection, and risk cirrhosis and hepatocellular carcinoma. There is less than 10% risk of developing chronic infection following effective immunization.

This course of immunisation will be the most important one in this baby’s life, and needs completing on time to be successful. Please ensure that these forms (at the end of this guideline) are fully completed and the necessary follow up is arranged for these babies in the community.

There is evidence to suggest that the response to Hepatitis B vaccine may be lower in pre-term and low birth weight babies. It is therefore important that these babies should also receive the vaccine and (Hep B immunoglobulin where appropriate) as per national recommendations. Further information is available in the Green Book, Hepatitis B chapter¹.

5.4 ADMINISTERING HEPATITIS B VACCINATION/HBIG FOLLOWING DELIVERY

During their antenatal care, women who have been identified as having a positive Hepatitis B result will have had a paediatric alert form generated by the midwife looking after them. It is the antenatal care team’s responsibility to order the Hepatitis B vaccine +/- immunoglobulin if needed. The prescribed vaccines for individual babies can be found in the NNU fridge. There is also a spare supply of Hepatitis B vaccines in the NNU fridge which can be used in the event that the pre-ordered vaccine cannot be found. HBIG will have been pre-ordered from the Health Protection Agency (HPA) at Colindale, and will have been issued 6-8 weeks prior to the EDD. It is stored in the NNU fridge. The vaccine +/- HBIG should be prescribed by the neonatal team on the front of the drug chart and given within the first 24 hours of life.
Pharmacy at QMC holds two emergency vials for neonatal use. This can be accessed by contacting the virologists (see above for details) or the on-call microbiologist, if out of hours, who will take details of the case. If HBIG is advised; please prescribe “Hepatitis B immunoglobulin 200 units” on to the newborn drug chart and contact pharmacy for supply via the normal routes. The paediatric doctor involved will need to be prepared to pass on case details to the microbiologist, or may be asked to complete a form so that the vial can be replaced soon after by Colindale Emergency HBIG must only be requested by an ST3 or above, and then only after discussion with the on-call consultant Microbiologist. A thorough check of both NNU fridges on both campuses must be made before emergency stock is requested.

Forms should be completed and documented on Medway maternity:

1. Immunisation record with consent – put in Child Health Record (Red Book)
2. Form H1 – send copies to GP, Child Health Record Department and put copy in medical notes
3. Form H2 – send to GP

+/- Form H1B – send copy to GP and put a copy in the medical notes for children at risk of Hepatitis B for lifestyle or family reasons

See appendix 2 for Hepatitis B pathway.

Ensure that parents are made aware and handover the written information to parents in the form of information leaflet (Appendix 1) and document in notes. Use translations/ language line as appropriate.

All forms and parent’s information sheet are available in individual baby packs, available on all postnatal wards and the neonatal unit.

Spare copies of all sheets, letters and stickers are available from Stephanie Tyrrell, Neonatal Guidelines Secretary, Neonatal Unit, Nottingham City Hospital (ext 55142)

<table>
<thead>
<tr>
<th>Age</th>
<th>Routine childhood</th>
<th>Babies born to hepatitis B infected mothers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Monovalent HepB (Engerix B or HBvaxPRO Paediatric) (with HBIG if indicated)</td>
</tr>
<tr>
<td>Birth</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>4 weeks</td>
<td>✗</td>
<td>Monovalent HepB (Engerix B or HBvaxPRO Paediatric)</td>
</tr>
<tr>
<td>8 weeks</td>
<td>✓</td>
<td>DTaP/IPV/Hib/HepB (Infanrix hexa)</td>
</tr>
<tr>
<td>12 weeks</td>
<td>✓</td>
<td>DTaP/IPV/Hib/HepB (Infanrix hexa)</td>
</tr>
<tr>
<td>16 weeks</td>
<td>✓</td>
<td>DTaP/IPV/Hib/HepB (Infanrix hexa)</td>
</tr>
<tr>
<td>1 year</td>
<td>✗</td>
<td>Monovalent HepB (Engerix B or HBvaxPRO Paediatric) Test for HBsAg</td>
</tr>
</tbody>
</table>

Figure 1. Hepatitis B, Chapter 18, Green book
Audit points:
Antenatal alerts
Follow up of birth plan and vaccination programme.
Serological results
Referrals to Paediatric gastroenterology

References
WHAT YOU NEED TO KNOW ABOUT THE HEPATITIS B VIRUS
(A leaflet for mothers and their families after full explanation by your doctor or midwife)

When you were first pregnant a sample of blood was taken for tests. One test was for the hepatitis B virus infection. Your result was positive, showing you have the hepatitis B virus in your blood.

This tells you:
1. what the hepatitis virus is
2. how you can stop your baby getting this virus
3. how to prevent others being infected
4. what problems the virus can cause you

1. WHAT IS THE HEPATITIS B VIRUS?

The hepatitis B virus is an infection in the blood and liver. There are other viruses which cause hepatitis. The one you have has been labelled B.

When people first get the hepatitis B virus they either:

- become immune to the virus (being immune means that they are protected against the disease for the rest of their life).
- OR
- do not become immune. The virus then stays in their blood for years and even for their entire lives. These people have chronic hepatitis B infection. Sometimes they are called hepatitis B virus carriers. We prefer to talk about individuals who have hepatitis B infection in this leaflet.

Those with chronic hepatitis B infection appear healthy and can only be identified by a blood test. However, they can develop chronic liver disease, scarring of the liver and even liver cancer in later life. The infection can spread from them to other people.

Your test shows that you are in this group and have chronic hepatitis B infection and this leaflet is important to you and your family.

How did I get the hepatitis B virus? How is it spread?

In countries where the virus is common most people who carry the virus get it first as babies or children.

The infection is spread in families:

- from mother to her baby at the time of birth
- from child to child through bleeding or scratches
- rarely by sexual intercourse
- rarely by sharing toothbrushes or shavers

It is also spread:

- by blood transfusion when the blood is not tested
- by sharing contaminated needles for tattoos or to inject drugs

You cannot get the hepatitis B virus from food, water or toilet seats or by shaking hands or coughing.

WHAT WILL HAPPEN WHEN I HAVE MY BABY?

You will be cared for the same as the other mothers.
2. SO HOW CAN I STOP MY BABY GETTING THE VIRUS?

Your baby can be stopped from getting the virus by immunisation from birth. Your baby will need the full course for lifelong protection:

- one or two injections within 24 hours of birth
  
i) hepatitis B vaccine so your baby will become immune
  
ii) immunoglobulin which will give your baby immediate protection (some babies will not need this injection – your doctor will explain)

- further injections of the hepatitis B vaccine at ages of one, and twelve months, as well as the routine vaccinations your baby will be offered at two, three and four months
- a full blood test at one year to check your baby is protected

You need to make sure your child completes this programme. You will be given a special page for you to record your baby’s immunisations and you can insert it into your child’s health record book to remind you.

After your baby has the first immunisations you are still encouraged to breast feed your baby if you wish.

Why should I make sure my child gets all the hepatitis B immunisations?

Your child will need extra immunisations and clinic visits to the normal immunisations. It is very important to have the full course because:

- children who miss or have late immunisations have a 9 out of 10 chance of getting the infection and risking chronic liver disease
- fully immunised children have less than 1 in 20 chance of getting the infection
- the immunisations have no major side effects

It’s up to you to make sure your baby completes the course in time.

3. SHOULD MY OTHER CHILDREN AND PARTNER BE PROTECTED?

Yes. They need a blood test and your family doctor can help. If this shows no immunity they should be immunised by your family doctor.

This will mean giving them a course of three immunisations with hepatitis B vaccine and a blood test 2 – 6 months after the third injection.

Can I prevent the virus passing on to someone else?

The virus is passed by blood and rarely by sexual intercourse. Your partner and people living in your home should be tested and immunised. The risk to other people is low if you do the following:

- if you cut yourself:
  - cover the cut
  - clean up any spilt blood with household bleach
  - dispose of the tissue in a sealed plastic bag
  - put blood-stained dressings and tampons in sealed plastic bags in the dustbin
  - everyone should use their own toothbrush and razor

If my partner has the virus, could he have got the virus from me or could I have got the virus from him?

There is no way of knowing. If you come from a country where the virus is common, then it is likely you both got the virus when you were children.
4. WHAT PROBLEMS COULD I GET BECAUSE I CARRY THE VIRUS?

You are likely (4 out of 5) never to have a problem from having chronic hepatitis in the whole of your life.

You have a small chance (1 out of 5) that your liver could be damaged. Your doctor can test for this by a special blood test before you notice any problem. You can have early treatment. Such treatment is very effective and can avoid the risk of developing severe damage such as liver scarring (cirrhosis) and liver cancer. You can be checked every year and problems can be found early and treated. The check-up will involve a blood test by your hospital or family doctor.

How will I feel if the hepatitis B virus causes problems?

Don’t forget that it is very likely you will never have problems and that if you do there is treatment available. The problems you might notice are:

- tiredness
- poor appetite
- nausea
- tummy pains
- yellowness of the eyes
- dark urine (jaundice)

These problems can be caused by other illnesses. If you have any of them you should see your doctor. A blood test can show if they are caused by the virus.

Can I have any treatment?

There is treatment for you if the virus is causing problems. Your family or hospital doctor will advise you if you need treatment. However, most people who carry the virus will never have a problem and will not require any treatment.

Is the hepatitis B virus the same as the AIDS virus?

No. It is not the same virus. The AIDS virus stops the body from fighting infection. The hepatitis B virus can cause problems with the liver.

Has research been carried out?

Yes. Research has helped us give you the advice above and has developed immunisations to prevent the infection as well as treatment for those who have the infection and are developing problems. Further research offers the hope that the world can be rid of the hepatitis B virus infection.
Universal antenatal screening for Hepatitis B infection

NICE guidelines & NHS Screening Programmes recommend booking bloods to be undertaken at 8-10 weeks gestation. Women who present later in pregnancy should be offered screening including women presenting unbooked in labour (a Trust Policy should be in place to cover this).

On receipt of a Hepatitis B positive (HBsAg +ve) result, the screening coordinators are required to:
- Inform the Trust's Obstetrician, GP, Health Protection Team (PHE), SIT & CHRD (Form H1) by e-mail.
- Ensure processes are in place to ensure the woman receives her results and these are documented in her notes, with her consent for the hand held notes (Alert for IV and CMW).
- Ensure the woman is referred for assessment, including confirmatory testing and management to the hepatologist/gastro incl. discussions around household contacts.
- Generate a paediatric alert.
- If meeting face to face, inform mother of post-exposure prophylaxis vaccination.

After delivery Maternity Services are required to:
- Explain implications of hepatitis B and obtain consent for vaccination. Provide leaflet to parents.
- Ensure first vaccine is prescribed (+/- HBIG) and administered within 24 hours of birth & inform mother of required Hep B vaccine.
- Record mother's hepatitis status and baby's vaccination status in midwifery notes, discharge letter, The Red Book or PCHR.
- Inform CHRD (via e-mail) GP & HV of mother's Hep B status and that first dose (+/- HBIG) has been given to the baby. Complete Neonatal Hep B Notification (Form H1) & include discharge summary in PCHR.

At discharge, maternity services are required to:
- Explain the follow up process of Hep B vaccinations via their GP.

The GP Practice is required to:
- Identify and READ code newly registered 'at risk' babies. If maternity services have been unable to give the first dose, arrange as soon as possible.
- Order (via manufacturer), administer and record monovalent hepatitis B vaccine at 4 weeks of age.
- Order (via Immunform), administer and record the three doses of Infanrix hexax vaccine at 8, 12 and 16 weeks of age.
- Notify CHRD after each dose of vaccine is given (if non SystmOne).
- At 12 months order administer and record monovalent hepatitis B vaccine. Request dried blood spot (DBS) test kit (from SIT England.SCRIMMS@nhs.net) or arrange blood test via phlebotomy services to check for Hepatitis B surface antigen (HBsAg) or to exclude infection. Report the result to the patient and CHRD.
- Refer to an appropriate specialist if child has developed hepatitis B infection.
- Assess need for a booster dose of vaccine at 3 years 4 months with PSB. If at continued risk, a 7th dose should be given (see The Green Book).

On receipt of notification of Hepatitis B positive pregnant woman (H), CHRD are required to:
- Securely record the woman's details including EDD.
- Maintain a database of the above information and check frequently observing EDDs and any missed babies.
- Liaise with midwifery screening coordinator to confirm details.
- Inform SIT.

On receipt of notification form H1, CHRD are required to:
- Inform GP, HV & SIT of 'at risk' baby requiring Hep B vaccination course and DBS at 12 months template letter H2-H5 + parents letter.
- Send a letter to the parents/carers informing them of the course of Hep B vaccines (Form H5).
- Record baby on SystmOne and READ code that indicates '母亲 is Hep B positive' and 'requires a course of Hep B vaccinations'.
- Ensure searches on SystmOne to automatically identify any babies who miss a dose of Hep B.
- Inform GP if appointments are outstanding and HV/SIT of recurrent missed appointments (2 or more).
- Submit quarterly data on behalf of NHS England to COVER.
- Inform SIT one month before DBS is due.
- SIT to send DBS result to CHRD.
- Record dried blood spot test results.
- Follow local protocols when child moves in/out of area. Ensure status is passed on to other CHRDs.

The Health Visitor is required to:
- Document notification of mothers positive Hep B at antenatal visit, if known.
- Identify 'at risk' babies by checking 'mother's Hep B status at newborn visit.
- Check that vaccination schedule is up to date at 10-14 days, 6 weeks and 10-14 months.
- Reinforce the need for vaccination and signpost parents at each routine visit.
- Liaise with GP and contact the family when a child fails to attend for vaccination.
- Check Hep B status for all children who move into the area.
- For babies who move out of the area, ensure all HCP are aware of Hep B PEP course.

The Screening and Immunisation Team will:
- Record, monitor & follow up any missed appointments or missed vaccinations after notification from CHRD and inform CHRD once confirmation of immunisation received.
- Send out dried blood spot kits and offer support and training to practice nurses. E-mail CHRD DBS result.

Thanks to the Lincolnshire, Leicestershire and Rutland SIT for kindly sharing their pathway.

Review Date: April 2019
Dear Doctor

I would like to inform you of an infant who is at risk of Hepatitis B infection and requires a full course of Hepatitis B vaccine. The first dose has been given (see details below). This infant is at risk of Hepatitis B infection for the following reason (please tick):

1. Mother has Hepatitis B infection
2. Any of the following:
   - Maternal lifestyle factors (e.g. IVDU)
   - Father or close household contact has Hepatitis B

Refer to GP for full course of Hepatitis B vaccine

This infant needs to complete a course of Hepatitis B vaccination. It is of vital importance for full protection to be achieved that the second, third and fourth doses are given exactly one month, two months and twelve months after the first dose is given.

Refer to appropriate paediatric service & GP for vaccination if indicated

Maternal Details (affix label)
Surname: ..................................................
First name: ..................................................
DOB: ..................................................
NHS number ..................................................
Hospital No: ..................................................

Maternal Hepatitis Status:
HBsAntigen Positive □ Negative □ Unknown □
HBeAntigen □ □ □
Anti-HBe □ □ □
Viral Load: ................. iu/ml
Acute Hepatitis in Pregnancy Yes / No

Hep B Immunoglobulin given: Yes / No
Batch No: ............... Thigh: Left / Right
Date: ............... Time: ............... 

Infant Details (affix label)
Surname: ..................................................
First name: ..................................................
DOB: ..................................................
NHS number ..................................................
Hospital No: ..................................................

Hep B vaccine given: Yes / No
Batch No: ............... Thigh: Left / Right
Date: ............... Time: ............... 

Yours Faithfully
Signature: ..................................................
Print Name: ..................................................
Date: ............... Time: ...............
Child at risk of Hepatitis B infection for lifestyle or family reasons - first vaccination given. 
Notification to healthcare professional to deliver subsequent vaccine doses:

Dear Doctor,

I would like to inform you of an infant born to a mother who is not Hepatitis B positive but who is at risk of Hepatitis B infection and requires a full course of Hepatitis B immunisation as recommended in Immunisation against Infectious Diseases (The Green Book). The first dose has been given (see details below). This infant is at risk of Hepatitis B infection for the following reason/s (please tick):

Maternal lifestyle factors e.g. (IVDU) □
Father/close household contact has Hepatitis B □

Infant Details (affix label)                                      Hep B vaccine given: Yes / No

Surname: .............................................................................
First name: ...........................................................................
DOB: ....................................................................................
NHS number ...........................................................................
Hospital No: .......................................................................... 

Batch No: ............  Thigh: Left / Right
Vaccine brand: ........
Date: ..............  Time: ..............
Administered by: ........................................

The baby should receive further doses of Hepatitis B immunisation at 1 month, and 12 months of age, (a total of 3 extra doses, including the dose given soon after birth), along with the routine vaccinations at 2, 3 and 4 months of age as per the new immunisation schedule (April 2017). A booster dose of Hepatitis B vaccine at the same age as the pre-school booster is also recommended if the child remains at continuing risk.

A blood test at 12 months is not required for the baby.

Yours faithfully,

………………………… (Signature)  ………………………(Print name)  Date: ..........  Time: ..........
Dear Doctor

This infant was born to a hepatitis B positive mother and needs to complete a full course of hepatitis B vaccination. The recommended vaccine schedule consists of three extra doses given at birth, one month, and 12 months of age, along with the routine vaccinations at 2, 3 and 4 months as per the new immunisation schedule (April 2017). A blood test to exclude infection will be required at 12 months of age.

The second dose of hepatitis B vaccine is now due on or around ........................ (insert date)

Please can you ask their GP or practice nurse to:

1. Register this child with your practice as a priority (if this has not been done already)
2. Complete the second dose of hepatitis B vaccine as indicated
3. Record on the child’s medical record and notify CHRD (Child Health Record Dept) after each dose of vaccine is administered (and after the blood test at 12 months) if you are NOT on SystmOne
4. Please note the following information regarding the vaccine:
   - The vaccine is not available to order on ImmForm and needs to be procured from the manufacturer. Reimbursement is to be claimed from the Prescription Pricing Division. The two licensed preparations are:
     - 0.5 ml (10 microgram) of Engerix B® (paediatric), manufactured by GlaxoSmithKline (GSK), Telephone 0808 100 9997
     - 0.5 ml (5 microgram) of HBVax-PRO Paediatric®, manufactured by Sanofi Pasteur MSD (MSD), Telephone 0800 0855511

Yours faithfully,

Nottingham Neonatal Service

.............................. (Signature) .............................. (Print name)  Date: ..........  Time: ..........