Guideline for the Management of Babies born to Mothers Infected with Hepatitis C No. C10

| Title of Guideline (must include the word “Guideline” (not protocol, policy, procedure etc) | Guideline for the Management of Babies born to Mothers Infected with Hepatitis C No. C10 |
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| Directorate & Speciality | Family Health, Neonatal Medicine |
| Date of submission | 8.2.2018 |
| Explicit definition of patient group to which it applies (e.g. inclusion and exclusion criteria, diagnosis) | Babies of Mothers Infected with Hepatitis C |
| Version | 4 |
| If this version supersedes another clinical guideline please be explicit about which guideline it replaces including version number. | 3 |
| Key Words | Hepatitis C, HCV |

**Statement of the evidence base of the guideline – has the guideline been peer reviewed by colleagues?**

| 1 | NICE Guidance, Royal College Guideline, SIGN (please state which source). | 7 (WHO factsheet) |
| 2a | meta analysis of randomised controlled trials |  |
| 2b | at least one randomised controlled trial |  |
| 3a | at least one well-designed controlled study without randomisation |  |
| 3b | at least one other type of well-designed quasi-experimental study |  |
| 4 | well –designed non-experimental descriptive studies (ie comparative / correlation and case studies) | 2 |
| 5 | expert committee reports or opinions and / or clinical experiences of respected authorities | 5,6,1, |
| 6 | recommended best practise based on the clinical experience of the guideline developer |  |

**Consultation Process**

Neonatal staff, Virologist, Hepatologist

**Ratified by:**  
**Date:**  
Neonatal Guideline Group  
Feb 2018

**Target audience**  
All neonatologists, midwives, obstetricians

**Review Date: (to be applied by the Integrated Governance Team)**  
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.  
1.2.2023
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.

### Document Control

#### Document Amendment Record

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### General Notes:

**Summary of changes for new version:**

Specific advice post-delivery and flow chart for follow up plans and referral
Audit points and minor amendments following WHO advice 2017
1. Background and Evidence
Hepatitis C is found worldwide affecting about 3% of the world’s population. Infants born to mothers with known Hepatitis C virus (HCV) infection (i.e. PCR positive) are at risk of vertically acquired Hepatitis C infection. The vertical transmission rate is approximately 5% in HCV infected mothers who are not co-infected with HIV. In mothers co-infected with HIV, the rate has been reported as 14 (5-36) %. There is no consensus regarding the optimal timing of testing for infants at-risk of Hepatitis C infection. Current recommendations are outlined below. Maternal antibodies may persist up to 12 months. HCV RNA can be detected by PCR as early as 2-3 months.\(^1,2,3\)

2. Patient Group
Mothers who are HCV RNA positive should be notified to the Hepatitis multidisciplinary coordinator (Tom Bills at tom.bills@nuh.nhs.uk). NUH virology automatically notifies new diagnoses but please contact Hepatitis B MDT with ANY HCV positive mother to facilitate counselling and post delivery treatment. When identified, mothers should have this clearly documented in their case notes as an 'antenatal alert'. Babies born to women who are HCV antibody positive but HCV RNA (PCR) negative do not need to be tested or followed up.

3. Identification / diagnosis
Maternal serum should have been sent for hepatitis serology and PCR. Positive PCR confirms current infection and, therefore, risk of transmission. There is an association between the titre of HCV RNA and the risk of vertical transmission, with a greater risk of infection for the baby the higher the viral load\(^2,4\).

3.1 Specific Advice
After the delivery of the infant, an NICU doctor /ANNP should reiterate the recommendations for screening and follow up (see algorithm) to the parent(s)/carers and this should be documented in the infant’s case notes and Red book.

4. Management
Mode of delivery will be by normal delivery unless otherwise indicated as there is no evidence that transmission rates are altered by Caesarean Section\(^2,4,5\). There are data which indicate that certain procedures e.g. fetal scalp electrodes, are associated with an increased risk of mother-to-baby transmission of HCV\(^5\). Therefore, in pregnancies where the mother is known to be HCV infected, these procedures will usually be avoided if possible. Studies that have evaluated breast-feeding as a risk factor have not found a higher incidence in breast fed infants\(^2,3,4,5,6\). Breast-feeding is not contraindicated although HCV-positive mothers should consider abstaining from breastfeeding if their nipples are cracked or bleeding.

- It is important that infants are followed up to confirm whether they have become infected with Hepatitis C.
- The infant’s GP and Health Visitor should be informed by letter.
- Infants should have an appointment in a neonatal follow up clinic arranged for 3 months.
- **Blood tests are not required at birth.** PCR should be done at 3 months, and PCR and serology at 12 months of age (See algorithm).
- Infants with evidence of vertical transmission should then be referred to a Paediatric Gastroenterologist for further management (see algorithm).
• Babies born to HCV positive mothers should have HIV antibody (1 Paediatric EDTA bottle) checked soon after birth so that the baby can be started on Zidovudine prophylaxis within 72 hours if HIV positive. This will reduce the vertical transmission of HIV (Refer to guideline C11).

4.1 Specific Advice

Potential, expectant, and new parents should be advised that:
• Approximately 5 out of every 100 infants born to HCV-infected women become infected (This occurs at the time of birth, and no treatment exists that can prevent this from happening).
• Infants infected with HCV at the time of birth seem to be well in the first years of life and are at risk of chronic liver disease.
• No evidence exists that mode of delivery is related to transmission. Therefore, determining the need for caesarean delivery versus vaginal delivery should not be made on the basis of HCV infection status.

Other counselling messages:
• HCV is not spread by sneezing, hugging, coughing, food or water, sharing eating utensils or drinking glasses, or casual contact.
• Persons should not be excluded from work, school, play, child-care or other settings on the basis of their HCV infection status.
• Involvement with a support groups (Hep C trust, British Liver trust) might help patients cope with Hepatitis C.

Audit points
• Compliance with referral pathway and follow up

References
Appendix

*Please file in baby notes

Algorithm for diagnosis of Hepatitis C infection in infants

Antenatal identification of HCV PCR positive mother

Antenatal alert, appropriately documented

NICU doctor/ANNP routinely called to discuss with mother before discharge

Arrange outpatient appointment with Neonatal consultant at 3/12 with HCV PCR at 3/12 (1 EDTA blood sample)

HCV PCR at 3/12

Negative

HCV PCR at 3/12

Positive

Outpatient visit at 1 year, HCV PCR / HCV Ab

(1 Clotted +1 EDTA blood sample)

HCV PCR –ve

HCV Ab -ve

Reassure

No further follow up required

HCV PCR –ve

HCV Ab +ve

Repeat HCV PCR/HCV Ab at 18 months to confirm

HCV PCR +ve

HCV Ab +ve

Refer to Paediatric Gastroenterologist

HCV PCR –ve

HCV Ab -ve

HCV PCR +ve

HCV Ab +ve