Trust Guideline for Screening Infants and Children at risk of Hepatitis C infection

Document Control:

For Use In:	NNUH NICU and maternity services, JLOPD and community paediatric settings		
Search Keywords	Hepatitis C, HCV, chronic hepatitis		
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Approved By:	Clinical Guidelines Assessment Panel (CGAP)		
Ratified By:	Clinical Standards Group and Clinical Safety and Effectiveness Sub-Board		
Approval Date:	28th October 2024	**Date to be reviewed by:** This document remains current after this date but will be under review	28th October 2027
Implementation Date:	N/A		
Reference Number:	CA2058 – ID No: 1213		

Version History:

Version	Date	Author	Reason/Change
V1.0	28/07/2010	Consultant Paediatrician	To originate document
V4.1	03/05/2022	Consultant Virologist, Consultant Neonatologist, Consultant Paediatrician	Reviewed documents remain fit for purpose, but a one-year review date given to allow for through review in the future
V5.0	01/06/2024	Consultant Neonatologist	Template updated in accordance with the Trust Procedural Document Template now in use. Figures updated in the preamble.

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Previous Titles for this Document:

Previous Title/Amalgamated Titles	Date Revised
None	Not applicable

Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

Consultation

The following were consulted during the development of this document:

- Neonatal Intensive Care Team (NNUH)
- Virology Consultants (NNUH)
- Paediatric Gastroenterology (NNUH)

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g. changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a clinical guideline applicable to NNUH; please refer to local Trust's procedural documents for further guidance, as noted in Section 5.

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1. Introduction

1.1. Rationale

In the UK figures estimate that there were approximately around 118,000 living with chronic hepatitis C in 2019 (NHS 2019. The number of people living with chronic hepatitis C virus (HVC) infection in England has fallen dramatically, by 37% since 2015, to 81,000 in 2020, with many of those drawn from marginalised and underserved groups in society, such as people who inject drugs. Ref: UKHSA. HCV in England report 2022 Headline Data Table (viewed on 7 February 2022). The substantial fall in numbers of people with chronic HCV infection is largely due to improved access to direct-acting antivirals, with around 58,850 treatments taking place between tax years 2015 to 2016 and 2020 to 2021. National estimate of seroprevalence is 0.4% Infection can be acquired vertically from an infected mother or horizontally by exposure to blood, sexual intercourse or intravenous (IV) drug use. Fifty percent of infected patients have no identifiable risk factors. Children who are at increased risk of hepatitis C infection are those who have been born to HCV positive mothers.

The majority of cases seen in children are the result of perinatally acquired infection. The risk for vertical transmission from a mother with HCV infection is 4-6 per cent but increases to 14-17% if there is a high viral load or co-infection with HIV or hepatitis B virus (HBV). Some studies suggest that transmission is more likely from mothers who were IV drug users or infected by blood products. Vertical transmission is confined to mothers whose blood contains detectable HCV RNA. There is insufficient evidence to support caesarean section or excluding breast feeding at this time (American Academy of Paediatrics 1998; Gibb 2000).

The incubation period for postnatally acquired infection is 6-12 weeks. Both acute and chronic infection are usually asymptomatic and liver function tests are often normal. However chronic hepatitis causes cirrhosis and associated symptoms 10-15 years after adult-acquired infection. This may take even longer in children. Treatment with antivirals can clear infection. All children with proven chronic infection will be managed in conjunction with Paediatric Hepatology services.

Current guidelines (DOH 2004, PHE 2013) support use of a selective screening programme to detect subclinical infection in infants born to infected mothers and children with unexplained hepatitic illnesses or chronic hepatitis. Guidelines produced by the Department of Health in November 2004 also suggest screening children who may have shared or been exposed to needles used for injecting IV drugs, those who may have had sexual intercourse (vaginal, anal, oral) with those at risk of blood borne infection and those with clinical features in keeping with infection.

Because HCV is usually asymptomatic in the early years of infection, many individuals are unaware of their positive status. Infection with HCV is suggested by detection of Anti-HCV. However the antibody appears at a variable time after infection and persists after the infection has cleared. Maternal antibody can be detected in the infant's blood up to 18 months of age and immunocompromised individuals may not develop an antibody response. The recommended screening also involves HCV PCR, which should be positive on two consecutive samples to confirm infection and persisting for greater than 6 months to diagnose chronic

infection. Two consecutive results 6 months apart must be positive or negative to confirm or refute chronic infection.

1.2. Objective

To advise appropriate screening for infants and children at risk of HCV infection.

1.3. Scope

This guideline is intended for use by all staff providing neonatal/paediatric care within Norfolk and Norwich University Hospital Trust.

1.4. Glossary

The following terms and abbreviations have been used within this document:

Term	Definition
HCV	Hepatitis C Virus
IV	Intravenous
NNUH	Norfolk and Norwich University Hospitals NHS Trust

2. Responsibilities

All staff who provide neonatal/paediatric care at NNUHT should ensure they remain up to date with this guideline

3. Processes to be followed

3.1. ICE requesting

For anti HCV request “HCV serology” on ICE
For anti HCV antibody request “HCV RNA by PCR” on ICE

3.2. Algorithms for Diagnosis of HCV Infection in Infants and Children

3.2.1. Infants at risk of perinatal HCV infection

3.2.2. Older Children at risk of HCV infection

4. References

References / source documents

1. American Academy of Pediatric Committee on Infectious Diseases. Hepatitis C virus infection. *Pediatrics* 1998; **101**, 481-85
2. Diseases of the liver and biliary system in children. Kelly. Blackwell Publishing 2004
3. Hepatitis C in the UK: 2013 report (Public Health England, 2013)
4. Hepatitis C: Essential information for professionals and guidance on testing. DOH 2004
5. Hepatitis C in England 2022, UKHSA
6. Mother-to-child transmission of hepatitis C virus: evidence for preventable peripartum transmission. Gibb et al. *Lancet* 2000; **356**, 904-07
7. Perinatal hepatitis C virus infection: diagnosis and management. Kelly et al. *Arch Dis Child* 2006; **91**:781–785

5. Audit of the process

- Infants at risk of Hepatitis C infection must have appropriate investigations as listed above.

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
Blood tests are undertaken within defined timeframes	Case note review	F. Walston	Neonatal Risk and Governance team	5 yearly

The audit results are to be discussed at relevant governance meetings to review the results and recommendations for further action. They will also ensure that the actions and recommendations are suitable and sufficient.

6. Appendices

There are no appendices for this document.

7. Equality Impact Assessment (EIA)

Type of function or policy	Existing

Division	Women's and Childrens	**Department**	Neonatal Services
Name of person completing form	F. Walston	**Date**	1.6.24

Equality Area	Potential Negative Impact	Impact Positive Impact	Which groups are affected	Full Impact Assessment Required YES/NO
Race	None	None	n/a	No
Pregnancy & Maternity	None	None	n/a	No
Disability	None	None	n/a	No
Religion and beliefs	None	None	n/a	No
Sex	None	None	n/a	No
Gender reassignment	None	None	n/a	No
Sexual Orientation	None	None	n/a	No
Age	None	None	n/a	No
Marriage & Civil Partnership	None	None	n/a	No
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?	No			

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**
- **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service**
- **The policy or function/service is assessed to be of high significance**

IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED

The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.