MANAGEMENT OF INFANTS BORN TO MOTHERS WITH GENITAL HERPES – NEONATAL CLINICAL GUIDELINE

1. Aim/Purpose of this Guideline
   1.1. This guideline is aimed at all clinical staff responsible for the care and management of infants born to mothers with a history of genital Herpes Simplex Virus (HSV).

2. The Guidance
   2.1 Introduction:
   Neonatal HSV is rare (1.65 per 100 000 live births annually in UK) but severe with a high mortality and morbidity. The majority (60-80%) of HSV infections occur in neonates without a clinical history or suspicion of HSV in the mother as HSV is often asymptomatic. 85% of infections are acquired during the peri-partum period (6) and the risk is greatest with the first episode of maternal genital herpes (41%). With recurrent infection the risk is < 3% (5). The gravid woman needs to be shedding virus either asymptptomatically or symptomatically at the time of delivery for transmission to occur.

   Neonatal HSV can present as localised infection (skin, eye, mouth (SEM)) or as disseminated or CNS disease. Disease can present any time between birth and 4 weeks of age.

   HSV should always be considered in the differential diagnosis of systemic or neurological disease in any child during the 1st month of life.

   It is impossible to distinguish clinically between recurrent and primary genital HSV infections when there is no prior history. Type specific HSV serology is a more accurate way of distinguishing primary and recurrent infections but given the low incidence of neonatal HSV in the UK, routine antenatal screening for susceptible pregnant women is not recommended.

   Serology is also rarely done on women presenting with genital herpes in pregnancy.

   2.2 Prevention:
   Caesarean Section (C/S).
   A prospective cohort study showed that Caesarean section significantly reduced HSV transmission among women from whom HSV was isolated (P=0.047). However, case studies of HSV suggest that C/S is not fully protective.

   C/S is recommended for all women presenting with 1st episode genital herpes lesions at the time of delivery, and may be considered for women who present with 1st episode genital herpes lesions within 6 weeks of their estimated date of delivery or with onset of preterm labour.

   For women presenting with recurrent genital herpes lesions at the onset of labour, the risks to the baby of neonatal herpes are small and C/S is not routinely recommended.

   Antiviral therapy (Aciclovir in 3rd trimester – recurrent or 1st infections)
   No study to date provides adequate evidence to determine whether Aciclovir in the last 4 weeks of pregnancy reduces HSV transmission to the fetus. Safety of Aciclovir in pregnancy has not been firmly established, but Aciclovir has been used extensively in pregnant women and it is not thought to be associated with birth defects.
Management of infants born to mothers with genital Herpes Simplex Virus (HSV) – Neonatal Clinical Guideline

2.3 Management

Positive surface swab
- Recall baby for review.
- Inform consultant.
- Consider completing full workup and commencing Acyclovir

Develops symptoms
- Recall for review.
- Inform consultant
- Screen and treat.

Positive surface swabs, PCR or symptomatic
- LP (CSF analysis, viral culture, PCR)
- Blood – FBC, LFT, HSV PCR
- Complete course of i.v. Aciclovir as recommended

High risk neonate

Low risk neonate

Maternal HSV in pregnancy with asymptomatic neonate

High risk Pregnancy
Need ALL of the following:
- Maternal genital Herpes onset < 6 weeks before delivery +
- Primary Infection (no previous history) +
- No serological proof of recurrent infection

Maternal HSV with onset > 6 weeks prior to delivery
OR
Later onset with evidence of previous infection (ie. recurrent infection)
OR
Maternal HSV with elective LSCS at term in absence of other risk factors

Surface swabs for HSV at birth
- Blood for HSV PCR, FBC and LFT
- Treat with i.v.. Aciclovir and await results.

Surface swabs (eye, mouth, umbilicus & rectum) for HSV at 24-48hrs
- Educate Parents
- Discharge
- Follow up results

If all results negative at 5 days and neonate remains clinically well
- Stop Aciclovir
- Educate parents
- Discharge.

Positive surface swab
- Recall baby for review.
- Inform consultant.
- Consider completing full workup and commencing Acyclovir

Positive surface swabs, PCR or symptomatic
- LP (CSF analysis, viral culture, PCR)
- Blood – FBC, LFT, HSV PCR
- Complete course of i.v. Aciclovir as recommended

Maternal HSV in pregnancy with asymptomatic neonate

Treatment
Intravenous high dose Aciclovir (20mg/kg/dose) 8 hourly
- 14 days (SEM)
- 21 days (disseminated or CNS disease)
In CNS disease, repeat CSF PCR at end of treatment and only stop in negative.
Neutropenia is a potential side effect and twice weekly full blood counts are recommended.

Management of infants born to mothers with genital Herpes Simplex Virus (HSV) – Neonatal Clinical Guideline
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2.4 Notes
This guideline does not address all possible scenarios and additional risks that each case may present with cannot be reliably quantified. Therefore caution needs to be exercised in the presence of the following factors:
Prematurity
Vaginal or instrumental delivery
Invasive fetal monitoring
ROM > 4hrs
Cervical lesions
Primary or first infections.
Maternal age < 21 years
Genital HSV-1 serotype infection

2.5 Symptomatic infants should always be treated.
If in doubt about the management then please discuss with a senior paediatrician and or microbiologist.
This guideline does not address the management of neonates born to mothers with possible first episode non-primary infections (a primary infection with a different HSV serotype in the presence of established recurrent infection with the other serotype), as serology is not routinely performed in mothers with genital herpes
3. **Monitoring compliance and effectiveness**

This part must provide information on the processes and methodology for monitoring compliance with, and effectiveness of, the policy using the table below.

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>Key Changes to practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Dr. Paul Munyard</td>
</tr>
<tr>
<td>Tool</td>
<td>Audit</td>
</tr>
<tr>
<td>Frequency</td>
<td>As dictated by audit findings</td>
</tr>
<tr>
<td>Reporting arrangements</td>
<td>Child Health Directorate Audit and Consultant led Neonatal clinical Guidelines Group</td>
</tr>
<tr>
<td>Acting on recommendations and Lead(s)</td>
<td>Dr. Paul Munyard. Consultant Paediatrician and Neonatologist.</td>
</tr>
<tr>
<td>Change in practice and lessons to be shared</td>
<td>Required changes to practice will be identified and actioned within 3 months. A lead member of the team will be identified to take each change forward where appropriate. Lessons will be shared with all the relevant stakeholders</td>
</tr>
</tbody>
</table>

4. **Equality and Diversity**

4.1. This document complies with the Royal Cornwall Hospitals NHS Trust service Equality and Diversity statement which can be found in the ‘Equality, Diversity & Human Rights Policy’ or the Equality and Diversity website.

4.2. **Equality Impact Assessment**

The Initial Equality Impact Assessment Screening Form is at Appendix 2.
## Appendix 1. Governance Information

<table>
<thead>
<tr>
<th>Document Title</th>
<th>Management of Infants born to mothers with genital Herpes Simplex Virus (HSV) – Neonatal Clinical Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>30 September 2015</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>November 2015</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>November 2018</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Dr Munyard. Consultant Paediatrician and Neonatologist</td>
</tr>
<tr>
<td>Contact details:</td>
<td>(01872) 252667</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>This guideline outlines the clinical screening and subsequent management of infants born to mothers with genital Herpes Simplex Virus (HSV)</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>Neonatal. Herpes Simplex Virus. HSV. Genital Herpes.</td>
</tr>
<tr>
<td>Target Audience</td>
<td>RCHT PCH CFT KCCG</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Date revised:</td>
<td>30:09:2015</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>Guideline on the Management of Infants born to Mothers with Genital Herpes Infection.</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Consultant approval. Child Health Directorate Audit. Neonatal Clinical Guidelines Group</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes</td>
<td>Sheena Wallace</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>Not Required</td>
</tr>
<tr>
<td>Signature of Executive Director giving approval</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Publication Location (refer to Policy on Policies – Approvals and Ratification):</td>
<td>Internet &amp; Intranet Intranet Only</td>
</tr>
<tr>
<td>Links to key external standards</td>
<td>None</td>
</tr>
</tbody>
</table>
Training Need Identified?  No

Version Control Table

<table>
<thead>
<tr>
<th>Date</th>
<th>Version No</th>
<th>Summary of Changes</th>
<th>Changes Made by (Name and Job Title)</th>
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</thead>
<tbody>
<tr>
<td>Sept 2008</td>
<td>V1.0</td>
<td>Initial issue.</td>
<td>Andrew Collinson. Consultant Paediatrician and Neonatologist</td>
</tr>
</tbody>
</table>

All or part of this document can be released under the Freedom of Information Act 2000

This document is to be retained for 10 years from the date of expiry.

This document is only valid on the day of printing

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Appendix 2. Initial Equality Impact Assessment Form

<table>
<thead>
<tr>
<th>Name of the strategy / policy / proposal / service function to be assessed (hereafter referred to as policy) (Provide brief description):</th>
<th>Management of Infants born to mothers with genital Herpes Simplex Virus (HSV) – Neonatal Clinical Guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directorate and service area:</td>
<td>Child and Women’s Health. Neonatal</td>
</tr>
<tr>
<td>Is this a new or existing Policy?</td>
<td>Existing</td>
</tr>
<tr>
<td>Name of individual completing assessment:</td>
<td>Dr. Paul Munyard.</td>
</tr>
<tr>
<td>Telephone:</td>
<td>(01872) 252667</td>
</tr>
</tbody>
</table>

1. Policy Aim*
   Who is the strategy / policy / proposal / service function aimed at?
   This guideline is aimed at clinical staff responsible for the care of infants whose mothers have presented with a history of genital Herpes Simplex Virus (HSV)

2. Policy Objectives*
   As above

3. Policy – intended Outcomes*
   Audit

4. *How will you measure the outcome?
   Audit

5. Who is intended to benefit from the policy?
   Patients. Medical and nursing staff.

6a) Is consultation required with the workforce, equality groups, local interest groups etc. around this policy?
   No. Consultant led Neonatal Guidelines group approved.
   b) If yes, have these *groups been consulted?
   N/A
   C). Please list any groups who have been consulted about this procedure.
   N/A

7. The Impact
   Please complete the following table.

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sex (male, female, transgender / gender reassignment)</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Race / Ethnic communities /groups</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disability - learning</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Disability - disability, physical disability, sensory impairment and mental health problems</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Religion / other beliefs</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Marriage and civil partnership</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pregnancy and maternity</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</strong></td>
<td>x</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You will need to continue to a full Equality Impact Assessment if the following have been highlighted:
- You have ticked “Yes” in any column above and
- No consultation or evidence of there being consultation - this excludes any policies which have been identified as not requiring consultation. or
- Major service redesign or development

8. Please indicate if a full equality analysis is recommended. | No

9. If you are not recommending a Full Impact assessment please explain why.

No area indicated

<table>
<thead>
<tr>
<th><strong>Signature of policy developer / lead manager / director</strong></th>
<th><strong>Date of completion and submission</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Paul Munyard</td>
<td>10:11:2015</td>
</tr>
</tbody>
</table>

| **Names and signatures of members carrying out the Screening Assessment** | 1. | 2. |

Keep one copy and send a copy to the Human Rights, Equality and Inclusion Lead, c/o Royal Cornwall Hospitals NHS Trust, Human Resources Department, Knowledge Spa, Truro, Cornwall, TR1 3HD

A summary of the results will be published on the Trust’s web site.

Signed _________Kim Smith_________

Date ______10:11:2015__________