Hyperemesis Gravidarum and Severe Nausea and Vomiting in Pregnancy Clinical Guideline V2.0

June 2018
Inpatient Management of Women with Hyperemesis

History, Baseline observations with MEOWs, Urinalysis, MSU, Weigh patient, Cannula and bloods (FBC, U+Es, LFTs), SHO to clerk and prescribe fluids, anti-emetics, Pabrinex and TEDS/Fragmin. Consider differential diagnosis.

- Manage in a side room where possible away from noise and food smells
- Begin Rapid Rehydration
  - **Fluids** - Hartmann’s 1st litre over 1 hour followed by 2nd litre over 2 hours (Use Baxter pump)
  - **Anti Emetics** – IV Cyclizine 50mg stat then every 8 hours. If waiting for prescription give 12.5mg IM Stemetil (Midwife exemption) (consider antiemetics which have effective and/or ineffective historically)
  - Fit TEDs
- Check Bloods as potassium may be required with subsequent fluids

Second line Anti-emetics if required
- Metoclopramide IV 10mg 8 hourly
- Ondansatron IV 4mg 8 hourly

**Fluids**
- 3rd litre of Hartmann’s over 6 hours

If no improvement discuss with SHO for further

**Vitamins**
- Pabrinex IV (2 pairs of ampoules, 4 in total) diluted in 100ml Normal Saline over half an hour

**Ongoing Care**
- Daily Bloods
- Fluid Balance Chart
- USS
- Urinalysis on every sample
- MEOWs 4 hourly
- Liase with SHO for fluid regime

**Adequate Response**
- Encourage oral fluids and snacks
- Oral anti-emetics
- Oral Thiamine until eating normally
- TTOs – orally or PR
- Give information of support groups
- Aware to see GP if symptoms return

**Inadequate Response**
- Consider other causes
- Liase with consultant for Hydrocortisone IV 100mg BD
- Weigh weekly whilst inpatient or on admission for repeated attendances
- Consider serial growth USS
1. **Aim/Purpose of this Guideline**

To inform midwives and obstetricians of care pathways and management for women suffering from Hyperemesis Gravidarum (HG) and Nausea and vomiting in pregnancy (NVP).

Nausea and vomiting is experienced by up to 80% of women on a spectrum from very mild to very severe with associated complications. 35% of women experience symptoms of clinical significance for which they seek medical aid. Onset of NVP is in the first trimester and if the onset is after 10+6 weeks gestation, other causes should be considered (RCOG 2015) (NEW 2018).

HG is an extreme form of nausea and vomiting which affects 1.5% of women and is the most common indication for hospital admission among pregnant women. It is associated with weight loss greater than 5% of pre-pregnancy weight, large ketonuria, and dehydration and electrolyte imbalances (RCOG 2015).

2. **The Guidance**

2.1. **Complications**

**MATERNAL**
- Weight loss, dehydration, hyponatraemia, vitamin deficiencies (NEW 2018), acidosis, Mallory-Weiss tear or oesophageal rupture, depression and social isolation, pressure damage to skin tissue, Venous thromboembolism (NEW 2018)

**FETAL**
- Small for Gestational Age (SGA), Low birth weight and prematurity (NEW 2018)

2.2. **Referral Criteria**

Women with mild NVP should be managed in the community with antiemetics. Day-case admission should be used when community/primary care measures have failed (NICE 2015) (NEW 2018)

2.2.1. **Day-Case Admission**
- Unable to maintain adequate hydration orally at home
- Vomiting > 24hours
- Moderate ketosis on urinalysis

2.2.2. **Consider Inpatient Admission**
- Continued nausea and Vomiting and unable to maintain intake or oral antiemetics or fluids after day case admission (NEW 2018)
- Haematemesis
- Continued nausea and committing with ketonuria and/or weight loss >5% of body weight despite treatment of oral antiemetics (NEW 2018) (NICE 2017)
- Significantly abnormal U +E`s (Na<120mmol/l)
• A confirmed or suspected co-morbidity (NEW 2018)
• 3 previous attendances for day cases
• The threshold for admission or seeking specialist advice should be lower for women with co-existing conditions (NEW 2018)

2.3. Initial Assessment and Investigation
• Assess for clinical dehydration – dry mucus membranes, tachycardia, weight loss, concentrated urine
• History: Previous history of NVP/HG (NEW 2018)
   Onset, duration and frequency of nausea and vomiting
   Whether food and drink are being tolerated
   Associated symptoms
   Co-existing conditions
   Effect on quality of life
• Weigh patient on admission
• MEOWS score
• Urine analysis. MSU – to exclude UTI. **NB: if glycosuria as well as ketones consider diabetes**
• Full blood count (FBC) – haematocrit is usually raised
• Blood glucose monitoring (exclude diabetic ketosis if diabetic) (NEW 2018)
• U+E’s- occasionally reveals hyponatremia, hypokalaemia and high serum urea
• Check magnesium if hyperemesis severe, or if potassium <3.0 mmol/l
• LFT’S’s – abnormal in 40% of women with HG - usual mild elevations in serum transaminases. Bilirubin levels and amylase levels can be slightly raised
• Ultrasound scan - confirm viable uterine pregnancy, gestation and exclude multiple or trophoblastic pregnancy (NEW 2018)

2.4. Differential Diagnosis
2.4.1. Findings which may suggest an alternative diagnosis include:
• Severe abdominal or epigastric pain (may require further investigation of serum amylase levels and an abdominal ultrasound and possibly oesophageal gastroduodenoscopy (NEW 2018)
• Onset of symptoms after 11 weeks gestation (NEW 2018)
• Fever
• Headache or abnormal neurological examination
• Goitre

2.4.2. Conditions causing nausea and vomiting in pregnancy:
• Genito-urinary conditions – UTI, uraemia, pyelonephritis, ovarian torsion
• Metabolic disorders and endocrine conditions – hypercalcaemia, thyrotoxicosis, diabetic ketoacidosis, Addison’s disease
• Gastrointestinal conditions – gastritis, peptic ulcer, pancreatitis, bowel obstruction, hepatitis, appendicitis
• ENT conditions e.g. labyrinthitis
• Neurological disorders – vestibular disease, migraine
• Other pregnancy-related conditions – acute fatty liver of pregnancy, pre-eclampsia (consider pre-eclampsia if the onset is of NVP is in second half of pregnancy)
• Drug induced vomiting – e.g. iron or opioids
• Psychological disorders – e.g. eating disorders

2.5. Management

2.5.1. Fluid and Electrolyte Replacement
• Avoid dextrose containing fluids – carbohydrate rich fluids may precipitate Wernicke’s Encephalopathy
• 2000ml Hartman’s solution given over 4 hours
• Additional fluid and electrolyte requirements should be adapted based on urinalysis and U+E’s
• Potassium is almost always required with subsequent IV fluids

2.5.2. Anti-emetic Therapy
No anti-emetics are currently licensed for use in pregnancy in the UK, however there is no known effect on the fetus
• Withhold non-essential medications associated with NVP e.g. oral iron
• Give first dose IM/ IV on admission
• Continued regular prescription of anti-emetics is essential. IV /IM until patient is eating without vomiting
• A combination of medications may be required
• Prescribe at times which give maximum effect at meal times
• Consider which anti-emetics have had an adverse effect or been most effective for the woman historically (NEW 2018)

2.5.3. First line Anti-emetic therapy
2 of these drugs used together may be more effective than a single drug.
• Phenothiazines – Prochlorperazine (Stemetil) 12.5mg IM
• Antihistamines - Cyclizine 50mg by IM or IV injection x 3 daily

2.5.4. Second line Anti-emetic
In addition to a first line drug
• Ondansetron – 4mg IV 3 X day (TDS)
• Metoclopramide - 10mg 3x daily, caution in teenage pregnancy due to risk oculogyric crises

2.5.5. Third line Anti-emetic
Following Consultant review consider Hydrocortisone 100mg bd initially followed by Prednisolone 20mg bd for 7 days reducing the dose thereafter. Steroids are reserved for cases where the above treatments including repeated inpatient admissions have failed and should be commenced as an
2.5.6. Nutrition
- Encourage oral fluids when they can be tolerated
- Record fluid balance
- Encourage frequent snacks of “safe foods” when able to eat
- Use MUST (Nutrition Assessment) tool in severe cases
- Assistance to eat when required
- Consider referral to Dietician in severe cases

2.5.7. Vitamins
- If unable to tolerate oral diet and fluid, Pabrinex should be administered according to medication information leaflet given and EPMA
- For those tolerating oral diet and fluid, Oral Thiamine 50mg x 3 daily should be routinely given to all women admitted to hospital with severe prolonged vomiting until eating normally, this may need to be continued after discharge.
  (NEW 2018)

2.5.8. Thromboprophylaxis
A VTE assessment must be completed on admission and anti-embolic stockings / Fragmin given to all clinically dehydrated patients on bedrest.

2.6. Midwifery Care
- Urinalysis on every specimen
- Accurate fluid balance for inpatients
- MEOWS 4 hourly
- Weigh woman on each admission or weekly if she remains an inpatient
- Women report that sensory stimulation is a trigger for vomiting therefore nurse in a side room if possible.
- Staff should not smell of smoke or use perfume
- Women should have easy access to a supply of clean vomit bowls
- Used vomit bowls should be cleared away promptly
- Ensure timely medication administration to enable stable blood levels of anti-emetics
- Assist women with personal hygiene
- Staff should ask before discussing food with woman in case it triggers further vomiting
- Do not suggest use of ginger, sea bands etc. as are ineffective for severe NVP and HG and inaccurate information may cause mistrust in healthcare professionals
- Encourage rest
- Give written information/support groups (Pregnancy Sickness Support)
- Advise women to seek early treatment for constipation caused by dehydration. Malnutrition, immobility or medication (Ondansetron)
- Emotional and psychological support. Ensure that the woman feels that she is listened to and her symptoms believed. In extreme cases refer woman to the Perinatal Mental Health Team if appropriate.
• Regular bloods (U+Es) as per obstetric plan, to assess the need for further supplements such as potassium (RCOG) (NEW 2018)

2.6. Discharge
• Give TTO anti-emetics orally or PR even if the woman is well on discharge. Ensure that the woman is aware that Thiamine is needed as a vitamin supplement if she continues to vomit.
• Give dietary advice
• Women with severe hyperemesis or nausea and vomiting in pregnancy who have continued symptoms into the late second or third trimester should be offered serial growth scans to monitor fetal growth (NEW 2018) (RCOG)
• If the woman’s symptoms were severe enough to require medication, inform her Community Midwife of discharge and arrange follow up after 24 hours to check for ketones in the urine, signs of dehydration(e.g. infrequent urination, dry mucous membranes, light-headedness) and assess response to medication
### 3. Compliance and effectiveness

<table>
<thead>
<tr>
<th>Element to be monitored</th>
<th>The audit will take into account record keeping by midwives and medical staff. The audit will be registered with RCHT’s Audit Department.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>Antenatal Ward Manager</td>
</tr>
</tbody>
</table>
| Tool                    | • Was the correct referral pathway followed?  
• On admission was the first dose of antiemetic given IM/IV?  
• Was an adequate fluid balance chart kept on all patients?  
• With severe prolonged vomiting was the patient prescribed Thiamine 50mgs TDS?  
• Did the patient have 4 hourly MEOWS?  
• Was a urinalysis taken for each specimen of urine? |
| Frequency               | 1% or 10 sets of notes, whichever is greatest, of all health records of patients admitted with hyperemesis gravidarum |
| Reporting arrangements  | • A formal report of the results will be received annually at the Obstetric Patient Safety Forum and at the Clinical Audit Forum, as per the audit plan.  
• During the process if the audit compliance is <75% or other deficiencies identified, this will be highlighted at the next Obstetric Maternity Patient Safety Forum and Clinical Audit Forum and an action plan agreed. |
| Acting on recommendations and Lead(s) | • Any deficiencies identified will be discussed at the Obstetric Patient Safety Forum and Clinical Audit Forum and an action plan developed.  
• Action leads will be identified and a time frame for action to be completed.  
• The action plan will be monitored by the Audit Midwife until all actions are complete. |

| Change in practice and lessons to be shared | • Required changes to practice will be identified and actioned within a time frame agreed on the action plan.  
• A lead member of the forum will be identified to take each change forward.  
• The results of the audits will be distributed to all staff through the Patient Safety Newsletter. |

### 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>Hyperemesis Gravidarum and Severe Nausea and Vomiting in Pregnancy Clinical Guideline V2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date Issued/Approved:</td>
<td>7th June 2018</td>
</tr>
<tr>
<td>Date Valid From:</td>
<td>7th June 2018</td>
</tr>
<tr>
<td>Date Valid To:</td>
<td>7th June 2021</td>
</tr>
<tr>
<td>Directorate / Department responsible (author/owner):</td>
<td>Magda Kudas, Antenatal Ward Manager Obs and Gynae Directorate</td>
</tr>
<tr>
<td>Contact details:</td>
<td>01872-252149</td>
</tr>
<tr>
<td>Brief summary of contents</td>
<td>To inform midwives and obstetricians of care pathways and management for women suffering from Moderate - Severe Nausea and Vomiting in pregnancy (NVP) and Hyperemesis Gravidarum (HG).</td>
</tr>
<tr>
<td>Suggested Keywords:</td>
<td>Hyperemesis, Gravidarum, nausea, sickness, pregnancy, vomiting, severe</td>
</tr>
<tr>
<td>Target Audience</td>
<td>RCHT</td>
</tr>
<tr>
<td>Executive Director responsible for Policy:</td>
<td>Medical Director</td>
</tr>
<tr>
<td>Date revised:</td>
<td>7th June 2018</td>
</tr>
<tr>
<td>This document replaces (exact title of previous version):</td>
<td>HYPEREMESIS GRAVIDARUM (HG) AND SEVERE NAUSEA AND VOMITTING IN PEGNANCY (NVP) – CLINICAL GUIDELINE V1.0</td>
</tr>
<tr>
<td>Approval route (names of committees)/consultation:</td>
<td>Maternity Guidelines Group Obs and Gynae Directorate Divisional Board for noting</td>
</tr>
<tr>
<td>Divisional Manager confirming approval processes</td>
<td>Tunde Adewopo</td>
</tr>
<tr>
<td>Name and Post Title of additional signatories</td>
<td>Not Required</td>
</tr>
<tr>
<td>Name and Signature of Divisional/Directorate Governance Lead confirming approval by specialty and divisional management meetings</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>Signature of Executive Director giving approval</td>
<td>{Original Copy Signed}</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------------------------</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>Document Library Folder/Sub Folder</td>
<td>Midwifery and Obstetrics</td>
</tr>
<tr>
<td>Links to key external standards</td>
<td>None</td>
</tr>
</tbody>
</table>
• NICE (2017) [https://cks.nice.org.uk/nauseavomiting-in-pregnancy#topicsummary](https://cks.nice.org.uk/nauseavomiting-in-pregnancy#topicsummary)  
• The Management of nausea and Vomiting of Pregnancy and Hyperemesis Gravidarum RCOG Green-top Guideline No. 60 (2016) |
| 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>
</table>
| 31st July 2015 | V1.0       | Initial Issue      | Karen Stoyles  
Antenatal Ward & Day Assessment Unit Manager |
| 15th June 2018 | V2.0 | Amendments  
2.2 Re-formatting complications with additions  
2.6 Frequency of anti-emetics  
2.6.4 Ondansetron 2nd line therapy  
Additions  
2.3 Additions to management  
2.6.4 Metoclopramide  
2.6.7 Vitamins  
2.7 Daily blood samples  
2.8 Serial Growth Scans | Katie Letcher  
Antenatal Midwife |

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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

*This assessment will need to be completed in stages to allow for adequate consultation with the relevant groups.*

<table>
<thead>
<tr>
<th>Name of the strategy / policy / proposal / service function to be assessed</th>
<th>Hyperemesis Gravidarum and Severe Nausea and Vomiting in Pregnancy Clinical Guideline V2.0</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Directorate and service area:</strong></td>
<td>Obs &amp; Gynae Directorate</td>
</tr>
<tr>
<td><strong>Name of individual completing assessment:</strong></td>
<td>Magda Kudas</td>
</tr>
<tr>
<td><strong>Telephone:</strong></td>
<td>01872 252149</td>
</tr>
<tr>
<td><strong>Is this a new or existing Policy?</strong></td>
<td>Existing</td>
</tr>
</tbody>
</table>

1. **Policy Aim***
   - *Who is the strategy / policy / proposal / service function aimed at?*
   - To inform midwives and obstetricians of care pathways and management for women suffering from: Hyperemesis Gravidarum (HG) Moderate or severe nausea and vomiting in pregnancy (NVP).

2. **Policy Objectives***
   - To ensure that pregnant women with Hyperemesis Gravidarum or Severe Nausea and Vomiting in pregnancy receive the appropriate level of care.

3. **Policy – intended Outcomes***
   - Improved maternal experience for pregnant women with Hyperemesis Gravidarum or Severe Nausea and Vomiting.

4. **How will you measure the outcome?***
   - Compliance Monitoring Tool

5. **Who is intended to benefit from the policy?***
   - Pregnant women with Hyperemesis Gravidarum

6a **Who did you consult with***

   b. Please identify the groups who have been consulted about this procedure.

<table>
<thead>
<tr>
<th>Workforce</th>
<th>Patients</th>
<th>Local groups</th>
<th>External organisations</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Please record specific names of groups**
- Maternity Guidelines Group
- Maternity Governance
- Obstetrics and Gynaecology Directorate
- Policy Review group
- Divisional Board for approval
What was the outcome of the consultation? | Guideline agreed

7. The Impact
Please complete the following table. **If you are unsure/don’t know if there is a negative impact you need to repeat the consultation step.**

<table>
<thead>
<tr>
<th>Equality Strands:</th>
<th>Yes</th>
<th>No</th>
<th>Unsure</th>
<th>Rationale for Assessment / Existing Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td>X</td>
<td></td>
<td>All pregnant women</td>
</tr>
<tr>
<td>Sex (male, female, trans-gender / gender reassignment)</td>
<td></td>
<td>X</td>
<td></td>
<td>All pregnant women</td>
</tr>
<tr>
<td>Race / Ethnic communities /groups</td>
<td></td>
<td>X</td>
<td></td>
<td>All pregnant women</td>
</tr>
<tr>
<td>Disability - Learning disability, physical impairment, sensory impairment, mental health conditions and some long term health conditions.</td>
<td></td>
<td>X</td>
<td></td>
<td>All pregnant women</td>
</tr>
<tr>
<td>Religion / other beliefs</td>
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<td>All pregnant women</td>
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<tr>
<td>Marriage and Civil partnership</td>
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<td>All pregnant women</td>
</tr>
<tr>
<td>Pregnancy and maternity</td>
<td></td>
<td>X</td>
<td></td>
<td>This guideline will have a beneficial effect</td>
</tr>
<tr>
<td>Sexual Orientation, Bisexual, Gay, heterosexual, Lesbian</td>
<td></td>
<td>X</td>
<td></td>
<td>All pregnant women</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 this relates to service redesign or development
8. Please indicate if a full equality analysis is recommended. | Yes | No X

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

No areas indicated

<table>
<thead>
<tr>
<th>Signature of policy developer / lead manager / director</th>
<th>Date of completion and submission</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magda Kudas</td>
<td>15th June 2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Names and signatures of members carrying out the Screening Assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Magda Kudas</td>
</tr>
<tr>
<td>2. Human Rights, Equality &amp; Inclusion Lead</td>
</tr>
</tbody>
</table>

**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

**This EIA will not be uploaded to the Trust website without the signature of the Human Rights, Equality & Inclusion Lead.**

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

Signed: Sarah-Jane Pedler  
Date: 7th June 2018