# Nausea and Vomiting in Pregnancy

## Primary Care Pathway

**HISTORY:**
- Previous history of NVP/HG
- Quantify severity using PUQE score (appendix 2): nausea, vomiting, hypersalivation, spitting, loss of weight, inability to tolerate food and fluids, effect on quality of life.
- History to exclude other causes e.g. Abdominal pain, urinary symptoms, infection, drug history or chronic *Helicobacter pylori* infection

**EXAMINATION:**
- Temperature
- Pulse
- Blood pressure
- Oxygen saturations
- Respiratory rate
- Abdominal examination
- Weight
- Signs of dehydration
- Muscle wasting
- Other examinations as guided by history

**INVESTIGATION:**
- Urine dipstick – quantify ketonuria as 1+ ketones or more.
- Midstream urine.
- Urea and electrolytes.
- Full blood count.
- Blood glucose monitoring – exclude diabetic ketoacidosis if diabetic.
- Referral for ultrasound scan – to confirm pregnancy and to exclude multiple pregnancy and trophoblastic disease.
- In refractory cases or history of previous admissions
  - TFTs, LFTs, calcium and phosphate, amylase and AMG.

### MILD SYMPTOMS + NO KETONURIA:
Advice regarding self-care measure, dietary changes and coping strategies (see appendix 2).

### MODERATE SYMPTOMS (OR PERSISTENT SYMPTOMS DESPITE DIETARY ADVICE) + KETONURIA (++ OR LESS ON DIPSTICK URINE KETONE TEST) +/− PUQE score 3 - 12

Use antiemetics:
- **First line**
  - *Cyclizine* (50mg TDS) OR *Promethazine hydrochloride* (25mg ONE BD)
  - **Second line**
  - *Prochlorperazine* (5 – 10mg TDS PO or 3 – 6mg BD BUCCAL)
  - **Third Line**
  - *Ondansetron* (4 – 8mg BD - TDS) OR *Metoclopramide* (5 – 10mg TDS)

Consider using a combination of 1st and 2nd line treatment before introducing 3rd line medication. Use each line or combination of treatment for 24 hours before switching.

### SEVERE SYMPTOMS (OR PERSISTENT VOMITING DESPITE ORAL ANTIEMETICS) +/− SIGNS OF DEHYDRATION +/− KETONURIA (+++ DIPSTICK URINE KETONE TEST) +/− 5% LOSS OF PRE-PREGNANCY WEIGHT +/− PUQE score > 13

Seek specialist advice. Consider ambulatory day-care or admitting to hospital. Lower the threshold for admitting to hospital or seeking specialist advice if the woman has a co-existing condition (for example diabetes) or complications.
Background

Most women feel nauseated or vomit in early pregnancy.¹ Nausea and vomiting in pregnancy (NVP) affects up to 80% of pregnant women and is one of the most common indications for hospital admission among pregnant women, with typical stays of between 3 and 4 days.² NVP is defined as the symptom of nausea and/or vomiting during early pregnancy where there are no other causes.² These symptoms are commonly referred to as ‘morning sickness’ but symptoms can occur at any time during the day.¹

Hyperemesis gravidarum (HG) is the severe form of NVP which affects about 0.3 – 3.6% of pregnant women. HG is characterised by severe, protracted nausea and vomiting associated with weight loss of more than 5% of pre-pregnancy weight, dehydration, ketonuria and electrolyte imbalances.¹,²

Diagnosis¹,²

Nausea and vomiting in pregnancy are usually diagnosed on the basis of symptoms along when other causes of nausea and vomiting have been excluded.

Women may report:

- Nausea, vomiting or both.
- Other symptoms include odour and food aversion.
- Nausea and vomiting beginning between the fourth and seventh weeks of gestation, peaks between the ninth and sixteenth weeks, and resolved by around the 20th week of pregnancy.

If nausea and vomiting start at 11 weeks of gestation or later, this is usually NOT caused by pregnancy and another cause should be sought.

Laboratory investigations are not required in uncomplicated cases.

A minority of women, for whom symptoms are more severe, will require further assessment by secondary care.

This group includes women with hyperemesis gravidarum, which commonly presents with:

- Persistent vomiting not related to other causes.
- Weight loss (usually at least 5% of pre-pregnancy body weight).
- Dehydration and electrolyte imbalance.
- Ketonuria.

Findings which may suggest an alternative diagnosis include:

- Onset of symptoms after 11 weeks of gestation.
- Abdominal pain or tenderness (more than mild epigastric tenderness after retching).
- Fever.
- Headache or abnormal neurological examination.
- Goitre.
Nausea and Vomiting in Pregnancy

There are conditions which may cause nausea and vomiting in pregnancy which need to be considered:

- **Genito-urinary conditions** — urinary tract infection, uraemia, pyelonephritis, ovarian torsion, renal stones.
- **Metabolic disorders and endocrine conditions** — hypercalcaemia, thyrotoxicosis, diabetic ketoacidosis, Addison's disease.
- **Gastrointestinal conditions** — gastritis, gastroenteritis, peptic ulcer, pancreatitis, cholecystitis, bowel obstruction, hepatitis, cholelithiasis, appendicitis.
- **Neurological disorders** — vestibular disease, migraine, central nervous system tumours.
- **Other pregnancy-related conditions** — acute fatty liver of pregnancy, pre-eclampsia.
- **Drug-induced vomiting** — for example iron or opioids.
- **Psychological disorders** — for example eating disorders.

**Assessment**¹,²

You should enquire about:

- The onset, duration, and frequency of nausea and vomiting.
- Whether food and drinks are being tolerated.
- Associated symptoms (for example weight loss, abdominal pain).
- Any co-existing conditions (for example diabetes) which may be adversely affected by nausea and vomiting.
- The effect on the woman's life (for example work, home situation and support, ability to care for her family).
- The effect on the woman's mood, with further assessment if appropriate. Especially if there any concerns that the woman is showing signs of depression.

Use the Pregnancy-Unique Quantification of Emesis [PUQE] validated questionnaire to assess the severity of nausea and vomiting in pregnancy based upon the score (Appendix 1).

- If a woman has nausea or vomiting of sufficient severity to affect fluid and food intake:
  - Monitor her weight.
  - Examine for signs of dehydration (for example dry mucous membranes, tachycardia, postural hypotension).
  - Look for signs of muscle wasting.
  - Test the urine for ketones.
  - Consider assessing for signs of hypokalaemia or thyrotoxicosis.
  - Consider referring for ultrasonography to identify predisposing factors (for example multiple or molar pregnancy).

- Measurement of serum human chorionic gonadotrophin is NOT recommended.

- Further blood tests (for example full blood count, urea and electrolytes, liver function tests, calcium and phosphate levels, and thyroid function tests) are not routinely recommended in primary care; if they are thought to be necessary, admission to hospital may be more appropriate.
• If features suggest an alternative cause of nausea and vomiting, exclude alternative diagnoses.

Self-referral for pregnancy care

Women should choose the hospital they would like to be cared for throughout their pregnancy, so that a booking appointment may be arranged:

• Peterborough City Hospital – GP surgery can make referral for a booking appointment OR patient can self REFER using a self-referral form.
• Hinchingbrooke Hospital – GP surgery can make referral for a booking appointment OR patient may contact the midwifery team in the area they live:
  o Huntingdon 01480 418629
  o St Neots 01480 357964
  o St Ives 01480 357145
  o Fenland 01354 644366
• The Rosie Hospital – GP surgery to arrange referral for a booking appointment with the local maternity team.
• Any other area - complete their self-referral form.
• Any other hospital of your choice - GP surgery to arrange a booking appointment.

Advice¹²

The following advice should be given to all women affected by nausea and vomiting in pregnancy.

• Reassure the woman that nausea and vomiting are a normal part of pregnancy that usually resolve by 16 to 20 weeks of gestation, and pregnancy outcomes are generally better for women who have nausea and vomiting in early pregnancy.

• Advise rest.

• The following may also be tried:
  o Avoiding any foods or smells that trigger symptoms (for example spicy or fatty foods).
  o Eating plain biscuits or crackers in the morning before getting up.
  o Eating bland, small, frequent meals low in carbohydrate and fat but high in protein.
  o Cold meals may be more easily tolerated if nausea is smell-related.
  o Drinking little and often rather than large amounts, as this may help to prevent vomiting.
  o Ginger.
  o Acupressure.

• Consider advising avoidance of iron-containing preparations if they make symptoms worse.

• Advise all women with nausea and vomiting in pregnancy to seek urgent medical advice if they experience:
  o Very dark urine, or no urination for more than 8 hours.
  o Abdominal pain or fever.
  o Severe weakness or feeling faint.
- Vomiting blood.
- Repeated, unstoppable vomiting.
- Inability to keep down food or fluids for 24 hours.
- Severe headache, visual problems, severe pain below the ribs, sudden swelling of the face, hands, or feet (symptoms of pre-eclampsia).

- Offer additional support for women experiencing nausea and vomiting in pregnancy, such as:
  - Self-help information
  - Support groups such as Pregnancy sickness support
  - Best use of medicines in pregnancy (bumps) patient information from the UK Teratology Information Service.

Management\(^1,2\) (see appendix 2 for further medication information)

- Women with mild NVP should be managed in the community with antiemetics to avoid unnecessary hospital admissions and disruption to the woman’s life.
- Women who have vomiting but are not dehydrated can be managed in the community with antiemetics, support, reassurance, oral hydration and dietary advice.
- Consider drug treatment (see appendix 3) with an anti-emetic if initial treatments such as dietary advice or rest have failed, and the woman has persistent symptoms.

  - **First line anti-emetic choice:**
    - Antihistamine – *Oral Cyclizine* or *Promethazine hydrochloride* and reassess after 24 hours
    - If response to the treatment is good continue with the chosen anti-emetic and review the woman once a week thereafter.

  - If the response to treatment is inadequate, the woman is not dehydrated and there is no ketonuria a **second line choice anti-emetic** may be tried:
    - Phenothiazine – *Oral Prochlorperazine* (*BUCCAL may be considered where ORAL formulations are not suitable*) and reassess after 24 hours.
    - If response to the treatment is good continue with the chosen anti-emetic and review the woman once a week thereafter.

  - Combinations of different drugs should be used in women who do not respond to a single antiemetic.

  - If the response to treatment is inadequate, the woman is not dehydrated and there is no ketonuria a **third line choice anti-emetic** may be tried:
    - *Oral Ondansetron* but should not be prescribed for longer than 5 days then reviewed for continued need OR
    - *Oral Metoclopramide* but should not be prescribed for longer than 5 days then reviewed for continued need. *Extrapyramidal disorders may occur, particularly in young adults, and/or when high doses are used. These reactions occur usually at the beginning of the treatment and can occur after a single administration.*
Metoclopramide should be discontinued immediately in the event of extrapyramidal symptoms.
- Reassess after 24 hours.
- If response is adequate review the woman once a week thereafter.
- If response is inadequate refer for specialist advice.

- Decide when to stop medication using a pragmatic approach
  - It may be possible to stop at around 12 – 16 weeks gestation as symptoms have usually improved but you must use your clinical judgement depending on severity of symptoms, response to treatment in previous pregnancies and preference of the woman.

- A new licensed product Xonvea® (Doxylamine and Pyridoxine) is NOT recommended for prescribing in primary or secondary care based on limited evidence and safety data. The place of this product in therapy will be reviewed in November 2019 when more evidence and safety data may be available.

### Referral for specialist assessment¹,² (Secondary care)

- Ambulatory day-care management should be used for suitable patients when community/primary care measures have failed and where the PUQE score is less than 13.

- Inpatient management should be considered if there is at least one of the following:
  - Continued nausea and vomiting and inability to keep down oral antiemetics.
  - Continued nausea and vomiting associated with ketonuria and/or weight loss (greater than 5% of body weight), despite oral antiemetics.
  - Confirmed or suspected comorbidity (such as urinary tract infection and inability to tolerate oral antibiotics).

### References

1. CKS - Nausea and vomiting in pregnancy, last revised October 2018
7. Summary of product characteristics. Phenergan 25mg tablets. Date of first authorisation: 01/03. Date of revision: 10/16. Available at: https://www.medicines.org.uk/emc/product/5588 (Accessed 1 May 2019)
8. Summary of product characteristics. Prochlorperazine 5mg tablets. Date of first authorisation: 05/92. Date of revision: 02/17. Available at: https://www.medicines.org.uk/emc/product/4553/smpc (Accessed 1 May 2019)

**Glossary**

- **NVP** – nausea and vomiting in pregnancy.
- **HG** - hyperemesis gravidarum.
- **PUQE** - Pregnancy-Unique Quantification of Emesis
- **TFTs** – thyroid function tests
- **LFTs** – liver function tests
- **ABG** – arterial blood gas
- **PO** - by mouth
Appendix 1

Pregnancy-Unique Quantification of Emesis (PUQE) Index

An objective and validated score of nausea and vomiting that can be used to classify/monitor the severity of symptoms.

Total score is sum of replies to each of the three questions.

<table>
<thead>
<tr>
<th>Question</th>
<th>1-2 times (2)</th>
<th>3-4 times (3)</th>
<th>5-6 times (4)</th>
<th>More than 6 times (5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the past 24 hours, how long have you felt nauseated or sick to your stomach?</td>
<td>1 hour or less (2)</td>
<td>2-3 hours (3)</td>
<td>4-6 hours (4)</td>
<td>Nil (1)</td>
</tr>
<tr>
<td>In the past 24 hours have you vomited or thrown up?</td>
<td>7 or more times (5)</td>
<td>3-4 times (3)</td>
<td>1-2 times (2)</td>
<td>7 or more times (5)</td>
</tr>
<tr>
<td>In the past 24 hours how many times have you had retching or dry heaves without bringing anything up?</td>
<td>No time (1)</td>
<td>1-2 times (2)</td>
<td>3-4 times (3)</td>
<td>5-6 hours (4)</td>
</tr>
</tbody>
</table>

PUQE-24 score: Mild ≤ 6; Moderate = 7–12; Severe = 13–15.

How many hours have you slept out of 24 hours? _______ Why? ______________________

On a scale of 0 to 10, how would you rate your wellbeing? ____________________________

0 (worst possible), 10 (the best you felt before pregnancy)

Can you tell me what causes you to feel that way? ________________________________
### Appendix 2 – Recommended antiemetic therapies, dosages and information

Please note the below medications are not licensed for use in pregnancy. For further information regarding side effects and drug interactions see the BNF and eMC.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Dose</th>
<th>Duration of use</th>
<th>Significant Adverse Effects</th>
<th>Cost (per 5 days at highest dose)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cyclizine</td>
<td>50mg PO up to TDS</td>
<td>N/A</td>
<td>• Drowsiness</td>
<td>£0.95</td>
</tr>
<tr>
<td>Promethazine hydrochloride</td>
<td>25mg PO at bedtime and repeat in morning if necessary.</td>
<td>N/A</td>
<td>• Neurological effects</td>
<td>£0.83</td>
</tr>
<tr>
<td>Prochlorperazine</td>
<td>5-10mg up to TDS PO.</td>
<td>N/A</td>
<td>• Extrapyramidal symptoms. • Endocrine disorders. • Cardiac disorders. • Blood and lymphatic disorders.</td>
<td>£0.75</td>
</tr>
<tr>
<td>Prochlorperazine</td>
<td>3 – 6mg BD BUCCAL.</td>
<td>N/A</td>
<td>• Extrapyramidal symptoms. • Endocrine disorders. • Cardiac disorders. • Blood and lymphatic disorders.</td>
<td>£16.80</td>
</tr>
<tr>
<td>Ondansetron</td>
<td>4 – 8mg BD PO</td>
<td>Maximum of 5 days then reviewed for continued need.</td>
<td>• Constipation • Headache • Flushing</td>
<td>£3.50</td>
</tr>
<tr>
<td>Metoclopride</td>
<td>10mg up to TDS PO</td>
<td>Maximum of 5 days then reviewed for continued need.</td>
<td>• Extrapyramidal symptoms. • Neurological disorders. • Cardiac disorders • Effects on ability to drive and use machines</td>
<td>£0.30</td>
</tr>
</tbody>
</table>