Management of Nausea and Vomiting of Pregnancy (NVP) and Hyperemesis Gravidarum – Full Operational Guideline

Reference No.: Maternity/01:23/H10
Gynaecology/01:23/H1

Contents

1. Introduction

Hyperemesis Gravidarum (HG) can be diagnosed when there is protracted NVP with the triad of more than 5% pre-pregnancy weight loss, dehydration and electrolyte imbalance. HG is the severe form of NVP affecting 0.3–3.6% of pregnant women.

Nausea and vomiting are common in pregnancy but most cases are mild and do not require treatment.

2. Purpose and Outcomes

To outline the investigations and plan appropriate management of women attending with hyperemesis / vomiting in pregnancy, to prevent inpatient admission.

3. Definition of Hyperemesis Gravidarum

Nausea and vomiting of pregnancy (NVP) is defined as the symptom of nausea and/or vomiting during early pregnancy **where there are no other causes**. HG can be diagnosed if there is protracted NVP with more than 5% prepregnancy weight loss, dehydration and electrolyte imbalance.

4. Background

Interventions for nausea and vomiting that do not require prescription include ginger; acupressure and vitamin B.

Prescribed treatments for nausea and vomiting include antihistamines, phenothiazines and thiamine supplementation.

Women should be informed that most cases of nausea and vomiting in pregnancy will resolve spontaneously by 16 to 20 weeks gestation and that nausea and vomiting are not usually associated with a poor pregnancy outcome.

5. Abbreviations

ED	-	Emergency Department
FBC	-	Full Blood Count
GAU	-	Gynaecology Assessment Unit
GP	-	General Practitioner
HG	-	Hyperemesis gravidarum
IM	-	Intramuscular
IV	-	Intravenous
LFT	-	Liver Function Tests
MAU	-	Medical Assessment Unit
NVP	-	Nausea and Vomiting of Pregnancy
PO	-	By mouth
PR	-	By Rectum
PUQE	-	Pregnancy-Unique Quantification of Emesis
PV	-	Per vaginum
TFT's	-	Thyroid Function Tests
TTOs	-	'To Take Out'
U&E's	-	Urea & Electrolytes

6. Maternal Complications

- Weight loss (>5% of body weight)
- Dehydration
- Electrolyte abnormalities including:
    - Hyponatraemia, from persistent vomiting (leading to lethargy, headache, confusion, nausea, vomiting, and seizures), or overzealous correction of hyponatraemia, which can lead to central pontine myelinolysis.
    - Hypokalaemia (skeletal muscle weakness, cardiac arrhythmias).
- Vitamin deficiencies: vitamin B1 deficiency (Wernicke's encephalopathy, which may also be precipitated by high concentrations of dextrose); vitamin B12 and vitamin B6 deficiencies may cause anaemia and peripheral neuropathies.
- Mallory-Weiss tears of the oesophagus.
- Postpartum complications: persistence of symptoms and food aversions, postpartum gallbladder dysfunction, and symptoms of post-traumatic stress disorder.

7. Fetal Complications

- There is evidence that hyperemesis gravidarum is associated with a higher incidence of low birth weight (small for gestational age and premature babies). If repeated admissions or persistence in late second or third trimester, growth scans may be considered based on severity.
- Little is known about the long-term health effects of babies born to mothers whose pregnancies were complicated by hyperemesis gravidarum.[7]

8. Referrals

Women with mild NVP should be managed in the community with anti-emetics.

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.

8.1 In the case of referral from Primary Care

In the first instance the GP can be advised to prescribe the following medication:

- **Cyclizine** 50 mg IM or orally may be given **initially**. Maximum dose up to three times in 24 hours.
- Followed by **Buccastem** (prochlorperazine) sublingual 3-6 mg twice a day (maximum dose 12mg in 24 hours).

8.2 If the symptoms do not resolve the woman will need referral to GAU/Hyperemesis Clinic at RDH and MAU at QHB.

For Burton patients, MAU at QHB is open 24 hours a day.
For Derby patients, Monday- Friday 08:30 – 18:00 and weekends 09:00 – 16:00, women can be assessed in GAU. Out of hours, severe cases can be seen in the emergency department (ED) – ideally initial treatment can be stabilisation with rehydration and anti-emetics. If this does not resolve the symptoms adequately the patient will need to be admitted to the gynaecology ward. If symptoms are relieved the patient can return home with a view to follow up in GAU at the next opportunity.

Criteria for Hyperemesis Clinic	Ward 209 out of hours admission	Exclusion criteria for the Hyperemesis Clinic.
• Less than 20 weeks pregnant	• Requiring immediate clinical care	• PV bleeding or loss
• Positive urine pregnancy test	• Tachycardia	• Abdominal pain
• Prolonged symptoms of nausea and vomiting	• High ketones (3+)	• Haematemesis
• PUQE score of 4+ (Appendix A)		• Known diabetes, thyrotoxicosis or heart failure.
• Ketonuria		

Initial Assessment

NVP and HG are associated with hyponatraemia, hypokalaemia, low serum urea, raised haematocrit and ketonuria with a metabolic hypochloraemic alkalosis. If severe, a metabolic acidaemia may develop.

In two-thirds of patients with HG, there may be abnormal thyroid function tests (based on a structural similarity between thyroid-stimulating hormone [TSH] and hCG) with a biochemical thyrotoxicosis and raised free thyroxine levels with or without a suppressed thyroid stimulating hormone level. These patients rarely have thyroid antibodies and are euthyroid clinically. The biochemical thyrotoxicosis resolves as the HG improves and treatment with anti-thyroid drugs is inappropriate.

Liver function tests are abnormal in up to 40% of women with HG with the most likely abnormality being a rise in transaminases. Bilirubin levels can be slightly raised but without jaundice, and amylase levels can be mildly raised too. These abnormalities improve as the HG resolves.

An ultrasound scan should be scheduled to confirm viability and gestational age and to rule out multiple pregnancy or trophoblastic disease. Unless there are other medical reasons for an urgent scan, this can be scheduled for the next available appointment as long as the NVP has resolved with treatment.

Specific observations and investigations to be performed:

- Temperature, blood pressure and pulse rate to be checked and documented
- PUQE score (see Appendix A)
- Urinalysis (for ketones) to be performed on admission and on discharge
- MSU for culture and sensitivity to exclude infection

- Document weight and BMI
- Blood tests: - FBC, U&Es, LFTs and TFTs on first attendance, and consider repeating if abnormal or if significant dehydration on subsequent attendances. In diabetic patients, blood glucose levels should be monitored to exclude diabetic ketoacidosis.

Patient to be seen by medical staff to assess and exclude other pathological causes of nausea and vomiting, such as, acute gastroenteritis, thyroid disease, diabetic ketoacidosis by clinical history, focused examination and investigations, and to prescribe anti-emetic TTO's. An ultrasound scan should be arranged to confirm a viable intrauterine pregnancy and exclude a multiple pregnancy or trophoblastic disease. In refractory cases or history of previous admissions, calcium and phosphate levels should be checked along with amylase to exclude pancreatitis

Women should be asked about previous adverse reactions to anti-emetic therapies. Drug-induced extrapyramidal symptoms and oculogyric crises can occur with the use of phenothiazines and metoclopramide. If these symptoms occur, these medications should be stopped immediately.

8.3 Attendance of the women in the ED

See attached flow chart **Appendix B**. ED staff must alert the gynae on call registrar (Derby bleep number 2206, Burton bleep number 621) of the woman's attendance. Patients who are too unwell to be referred to the clinic will be assessed by the gynae registrar on call and be admitted or discharged from the ED depending on their findings.

9. Treatment for moderate to severe symptoms

- For stat dose of anti-emetic (see below) and ideally (if time permits and condition allows) plan to treat as daycase in hyperemesis clinic (in GAU at RDH or MAU at QHB) or give prescription for anti-emetics TTO's and see next day in hyperemesis clinic at 09:00hrs if no improvement in symptoms.

OR

- If severe symptoms, plan immediate care and treatment and admit if / when GAU closed.

10. Daycase Management

- Cannulate and give IV fluids as below
- Start a fluid balance chart
- Urinalysis on every micturition
- Anti-emetics as below
- Thiamine supplementation
- Plan to scan to exclude molar / multiple pregnancy
- Oral diet and fluids encouraged
- Perform a VTE risk assessment

11. Fluid and Electrolyte Replacement

The mainstay of therapy is adequate fluid and electrolyte replacement.

Normal saline with additional potassium chloride, with administration guided by daily monitoring of electrolytes, is the most appropriate intravenous hydration.

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- 1000mL normal saline (Sodium Chloride 0.9%) to be administered over 2 hours
- Followed by 1000ml saline-KCL solution (Sodium Chloride 0.9% + Potassium Chloride 0.15%, containing 20 mmol Potassium) to be administered over 4 hours (unless increased potassium levels noted).

12. Anti-emetics (as per RCOG)

See order set on Lorenzo

	Anti-emetic	Drug class	Dosing	Additional Comments
First line options	Cyclizine	H1 receptor antagonist	50mg TDS (PO/SC/IV/IM)	
	Promethazine	Phenothiazine	12.5-25mg 4-8 hourly (oral)	Drug-induced extrapyramidal symptoms and oculogyric crises can occur with the use of phenothiazines and metoclopramide. If this occurs, there should be **prompt cessation** of the medications.
	Prochlorperazine		3mg-6mg BD (*buccal*) *or* 5mg-10mg 6-8 hourly (*oral*) *or* 12.5mg 8 hourly (IM)	
Second line options	Metoclopramide	Dopamine Antagonist	5-10mg TDS (SC, IM, PO, IV) ≥60kg – Maximum of 30mg/24 hours <60kg – Maximum of 0.5mg/kg/day **Maximum duration of 5 days**	
	Ondansetron	5HT3-receptor antagonist	4mg - 8mg 6-8 hourly (PO) *or* 8mg BD (IV *over 15 minutes or* IM)	Limited data on safety profile in pregnancy. The use of ondansetron during the first trimester of pregnancy is associated with a small increased risk of the baby having a cleft lip and/or cleft palate; an additional 3 cases per 10,000 oral clefts (14 cases per 10,000 births versus 11 cases per 10,000 births in the unexposed population). If the clinical decision is to offer ondansetron in pregnancy, women **must be counselled on the potential benefits and risks of use**, both to her and to her unborn baby and the final decision should be made jointly. Oculogyric crises can occur with the use of ondansetron.
	Domperidone	D_2 receptor antagonist	10 mg 8 hourly (PO) (Maximum of 30mg/24 hours)	Domperidone should only be used for up to 7 days to treat nausea and vomiting. Risk of cardiac side effects.
Because different drug classes may have different mechanisms of action and therefore synergistic effects, combinations of drugs from different classes should be used in women **who do not respond to a single antiemetic**. Furthermore, persistent vomiting may mean that oral doses of antiemetics are not absorbed and therefore the intravenous, rectal, subcutaneous or intramuscular routes may be necessary and more effective.				
Third line options	Hydrocortisone	Corticosteroid	100 mg twice daily (IV) once clinical improvement occurs switch to prednisolone [see below]	
	Prednisolone		40–50 mg daily dose to be gradually tapered until the lowest maintenance	In most cases prednisolone needs to be continued until the gestational age at which HG

			dose that controls the symptoms is reached	would have typically resolved and in some extreme cases this occurs at delivery. Caution: long term use can increase the risk IUGR

Recommended antiemetic therapies and dosages

Second line
Following treatment with intravenous fluids and anti emetics in GAU, for discharge home if stable or admission to gynaecology ward at RDH for in-patient management if unable to tolerate diet and fluids and/or still vomiting. At QHB Midwifery staff on MAU will review blood results on the day of admission. If they are abnormal, they will ask the on call doctor for obstetrics to review the patient. If the patient is admitted, their own consultant team is responsible for reviewing all investigations.

13. Inpatient management (gynaecology ward 209 at RDH and the obstetric ward at QHB)

Inpatient management should be considered if there is at least one of the following:

- continued nausea and vomiting and inability to keep down oral anti-emetics
- continued nausea and vomiting associated with ketonuria and/or weight loss (greater than 5% of body weight), despite oral anti-emetics
- confirmed or suspected comorbidity (such as urinary tract infection and inability to tolerate oral antibiotics).

As above and continue;

- U&Es should be checked daily in women requiring intravenous fluids
- IV fluids to be continued 4-6hrly determined by U&Es and patient's condition
- Regular anti-emetics
- Monitor weight in severe cases
- Urinalysis twice daily for ketones
- Medical review daily until considered fit for discharge home

Additional therapies for consideration:

Drug	Drug class	Dosing	Additional Comments
Ranitidine	Histamine H2 receptor antagonists	150mg BD	May be used for women developing gastro-oesophageal reflux disease, oesophagitis or gastritis.
Omeprazole	Proton pump inhibitors	20mg OD - BD	
Thiamine	Vitamin B Supplementation	50mg TDS (PO)	Should be given to all women admitted with prolonged vomiting, especially before administration of dextrose or parenteral nutrition.
Thiamine (Pabrinex)*	Vitamin B & C Complex	IV (1 pair) OD	
Enoxaparin	Low Molecular Weight Heparin	As per VTE risk assessment	Unless there are specific contraindications such as active bleeding. Thromboprophylaxis can be discontinued upon discharge.
Women with previous or current NVP or HG should consider avoiding iron-containing preparations if these exacerbate the symptoms. *Pabrinex – If severe hyperemesis and possibility of malabsorption to reduce risk of Wernicke's encephalopathy			

14. Transfer Home

- Prescribe anti-emetic TTO's as previous
- Prescribe thiamine if recurrent hyperemesis until symptoms settle.
- Give contact numbers for GAU for self-referral as required

Women with NVP and HG should have an individualised management plan in place when they are discharged from hospital.

Women with severe NVP or HG who have continued symptoms into the late second or the third trimester should be offered serial scans to monitor fetal growth.

15. Recurrent or Persistent Hyperemesis

If a woman fails to respond to the above treatment or needs recurrent admission, the following should be considered:-

- Agreed management process, e.g. identified consultant and patient makes direct contact through GAU/MAU following first admission.
- Thyroid function tests – you may see a picture of biochemical hyperthyroidism but without clinical evidence. This biochemical picture will usually settle once the vomiting settles. Rarely Graves disease may present for the first time in pregnancy and clinical signs should be sought (e.g. lid lag, onycholysis and tachycardia).
- Oral thiamine supplementation is required for all women with recurrent hyperemesis 50mg x 3 daily. If unable to tolerate orally, consider Pabrinex (containing thiamine) is given as 10ml (in 2 amps) diluted in 100ml of normal saline and infused slowly over 30 minutes (N.B. reports of anaphylaxis during and shortly after infusion). Given once a day if severe hyperemesis and possibility of malabsorbtion to reduce risk of Wernicke's encephalopathy.
- Corticosteroids should be reserved for cases where standard therapies have failed. These may be considered at consultant level with a woman presenting with severe and unremitting hyperemesis. An initial regimen of IV hydrocortisone100mg BD followed by 40mg prednisolone once daily is recommended. Sometimes prednisolone is continued for more than a week but it may be possible to gradually reduce this to 5-10mg per day. It should only be considered after discussion with the consultant on call.
- Consider dietician referral

In women with severe NVP or HG, input may be required from other professionals, such as midwives, nurses, pharmacists, endocrinologists, nutritionists and gastroenterologists, and a mental health team, including a psychiatrist.

When all other medical therapies have failed, enteral or parenteral treatment should be considered with a multidisciplinary approach.

16. Monitoring Compliance and Effectiveness

As per agreed Business unit audit forward programme

17. References

https://www.gov.uk/drug-safety-update/ondansetron-small-increased-risk-of-oral-clefts- following-use-in-the-first-12-weeks-of-pregnancy

The Management of Nausea and Vomiting of Pregnancy and Hyperemesis Gravidarum, RCOG Green Top Guideline Number 69. June 2016.

Nausea/vomiting in pregnancy, NICE clinical guideline, February 2020

Antenatal care for uncomplicated pregnancies, NICE clinical guideline
February 2019

PUQU-24 Scoring System

In the last 24 hours, for how long have you felt nauseated or sick to your stomach?	Not at all (1)	≤1 hour (2)	2-3 hours (3)	4-6 hours (4)	>6 hours (5)
In the last 24 hours have you vomited or thrown up?	≥7 times (5)	5-6 times (4)	3-4 times (3)	1-2 times (2)	none (1)
In the last 24 hours how many times have you had retching or dry heaves without bringing anything up?	No time (1)	1-2 times (2)	3-4 times (3)	5-6 times (4)	≥7 times (5)

SCORE: Mild = ≤6, Moderate = 7-12, Severe = 13-15

Management of Hyperemesis Gravidarum in the Emergency Department

Hyperemesis Gravidarum is defined as persistent vomiting in pregnancy, which causes weight loss and ketosis.

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HYPEREMESIS GRAVIDARUM
(≤20 weeks confirmed pregnancy)

Triage and Observations in Pitstop
IV fluids
Bloods: FBC, U&Es, LFTS, TFTS, BM
Anti-emetics
Urinalysis for ketones

Results reviewed by Gynae team in daytime hours and ED team out of hours

↓

MILD/MODERATE

All of:
- PUQU-24 score ≤ 12 (appendix A)
- Ketones ≤ 2+
- Pulse <100 bpm

SEVERE

Any of:
- PUQU-24 score ≥ 13 (appendix A)
- High ketones = 3+
- Pulse ≥ 100 bpm

RDH: In Hours (09:00-16:00 daily)
- Admit directly from Pitstop (nurse-led) to GAU extn 85637 at RDH.

Out of Hours
- ED doctor to review patient & d/w gynae registrar (RDH bleep 2206, QHB bleep 621)
- Direct patient access to GAU at RDH the following day

RDH: In Hours (09:00-16:00 daily)
- Admit directly from Pitstop (after senior Dr review) to GAU at RDH.

Out of Hours
- Senior ED doctor review
- Liaise with Gynae registrar (RDH - bleep on call registrar 2206) Gynae registrar to review patient on Ward 209, QBH Bleep 295 (SHO) / 621 (Gynae REG) regarding assessment
-

It is important to rule out 'other causes' of symptoms e.g. patient presenting with the conditions below (not exclusive) needs discussing directly with the Gynae registrar on call (RDH bleep 2206, QHB bleep 621)

- PV bleeding/loss
- Abdominal pain
- Haematemesis
- Diabetes
- Thyrotoxicosis
- Heart failure

QHB Hyperemesis MAU Proforma

Date	
Arrival time	
Assessment time	
Referred by	
Time out	

Label
Tel.no

Age	Gravida	Para	Gest

Vomiting Yes How many times in last 24 hrs:

Blood in vomit Yes / No If yes, refer to doctor

Last tolerated fluids: Last tolerated food:

Abdominal pain/diarrhoea/
Urinary symptoms: If Yes, refer to doctor

Ultrasound scan in this pregnancy: Yes / No
If yes, scan result:

Hx of diabetes/thyroid disease: If Yes, refer to doctor

Past Medical Hx:

Drug Hx: Allergies:

Surg.Hx:

Examination

Pulse		Weight	
BP		Urinalysis	
Temp			

Bloods

FBC U&E LFT TFT

IV Access

IV Fluids prescribed

Medications prescribed

Date for EPAU scan if not already scanned:

Consultation by: ……..
(Name, designation, signature) ……..
……..
…….

Additional notes

MAU HYPEREMESIS PATIENT SATISFACTION SURVEY

Dear Patient,

As part of our efforts to continually evaluate and improve our services, we would like to invite you to complete this survey.

Your responses will be completely anonymous.

Was this your first visit to the centre?

Yes No

If No, how many times have been before?

Did each member of staff introduce themselves to you?

Yes No

Do you feel that you were treated with sensitivity?

Yes No

Did you receive enough information from the staff?

Yes No

Were you offered written information to take home?

Yes No

Would you recommend referral to the centre to a friend?

Yes No

If No: Why?

What was good in your opinion about your stay?

What do you think we could improve?

Thank you for your time.

APPENDIX D

RDH Hyperemesis proforma

Patient Details or add Identification label
Name
Address
GP
DOB
Hospital Number

Name Preference: …….
Date pathway commenced ……..
Consultant ……

HYPEREMESIS CLINIC

NAUSEA AND VOMITING PATHWAY

HYPEREMESIS

GUIDELINES FOR USE

Initials	Name (printed)	Signature	Post Held

Tel No ……..

OK to contact on above: Yes / No
(e.g. with abnormal swab results)

Language ……

Interpreter Needed ……

Next of Kin name: ……

Address ……

……

Telephone No ……..

Relationship ……

Aware of this admission: Yes / No

Referral from:

GP ☐

Midwife ☐

ANC ☐

Gynae ☐

Patient ☐

A & E ☐

Other ☐

Specify ……..

……

Date of initial referral ……..

SAFEGUARDING	Initials & Date
Child protection issues suspected ☐ Risk of domestic abuse (Routine Enquiry) ☐ Phone call Enquiry to Social Care ☐ Referral to Social Services ☐	

MEDICAL, SURGICAL & ANAESTHETIC HISTORY	Initials & Date
LMP …….. G …….. P…….. Cigarettes ……../day Recreational drug use …….. Alcohol ……../week Pregnancy Test: Yes / No Date Done…… Contraception……..… Medical / Surgical / Obstetric History (including mental health): ……. ……. Medication (in last 6 months): ……... ……. Allergies (e.g. medication, latex): ……. Other …….	

I understand that the **Derby Hospital NHS Foundation Trust** will not accept liability for loss or damage to property or valuables which I retain in my possession.

Name …….

Witness …… Date …….

Designation ……..

Admission 1

Date: ……

PUQE Pregnancy Unique – Quantification of Emesis

VTE Assessment undertaken and recorded on ICM ☐ see page: 12

1. In the last 12 hours, for how long have you felt nauseated or sick to your stomach:

* Not at all (N=1)
* 1 hour or less (N=2)
* 2 - 3 hours (N=3)
* 4 - 6 hours (N=4)
* More than 6 hours (N=5)

2. In the last 12 hours, have you vomited:

* Haven't vomited (N=1)
* 1 to 2 times (N=2)
* 3 to 4 times (N=3)
* 5 to 6 times (N=4)
* 7 or more times (N=5)

Score: ……..

3. In the last 12 hours, how many times have you had retching or dry heaves without bringing anything up:

* No times (N=1)
* 1 to 2 (N=2)
* 3 to 4 (N=3)
* 5 to 6 (N=4)
* 7 or more (N=5)

Total Score:

No symptoms	= 0 – 3
Mild symptoms	= 4 – 6
Moderate symptoms	= 7 – 12
Severe symptoms	= 13 – 15

Signed: ……..

INVESTIGATIONS:

Urine ……..

FBC	
TFT	
LFT	
U&E	
USS	

OBSERVATIONS:

BP …….. Pulse ……

Temp……

Height …… Weight ……

BMI …….

Other/Comments:……

……

Condition & Plan: ……

……

……

……

Name …… Signature …… Desig.....……

Doctors Review: ……

……

……

……

Name …… Signature …… Desig.....……

MEDICATION

DATE	DRUG	DOSE	ROUTE	PRN	SIGNATURE	TIME	GIVEN BY SIGNED	Designation
	Buccastem	6mg		12hrly				
	Cyclizine	50mg	IM/SC	8hrly				
	Metoclopromide	10mg	IM	8hrly				
	Paracetamol	1G	PO					

Cannula Inserted	Date: Time:	Lot No:
Location:	Name:	Signature:

FLUID BALANCE

IV Fluids (for blood products refer to Trust transfusion prescription)					**Administration**				
Name of preparation	Volume	Start Time	Time to Run	Signature	Batch No.	Start time	Started by:	Finish time	Removed by:
Normal Saline	1000		2hrly						

Time	**IVI**	**Oral**	**Total in**	**Total out**	**Urine**	**Vomit**	**Ketones**	**Total**
08.00								
09.00								
10.00								
11.00								
12.00								
13.00								
14.00								
15.00								
16.00								
17.00								
18.00								
19.00								
20.00								

EVALUATION

Discharge Plan: **TTO's** ……

PUQE: ……. Cannula removed ☐ VIP score on removal ☐

Ketones: …….. Appointments: Open ☐

Date ……..

Name …… Signature ……. Desig.....……

ANY ADDITIONAL INFORMATION

PATIENT INFORMATION

HYPEREMESIS GRAVIDARUM

What is Hyperemesis (Nausea & vomiting in pregnancy

Nausea and vomiting is a common symptom of pregnancy affecting between 70 - 90% of pregnant women [1,2,3]. Although often called 'morning sickness', nausea and vomiting occurs at any time of day and may persist throughout the day [3]. Symptoms usually begin around six weeks of pregnancy and can last up to 20 weeks [4]. In severe cases they can continue throughout pregnancy.

Most pregnant women feel sick or vomit during early pregnancy. In most cases it is mild and does not need treatment. In more severe cases, an anti-sickness medication is sometimes used. Hyperemesis is defined as persistent vomiting in pregnancy, which causes weight loss and ketosis. Hyperemesis gravidarum is characterized by prolonged and severe nausea and vomiting with dehydration, ketosis and weight loss it affects up to 1% of pregnant women. Dehydration is a complication in severe cases and requires hospital admission for intravenous fluid to be given [1].

What causes nausea and vomiting in pregnancy?

The exact cause for nausea and vomiting is not known, although rising levels of pregnancy hormones *(progesterone, oestrogen and human chorionic gonadotrophin), altered thyroid function, reduced gastric and metabolic activity* as well as psychological factors are all thought to play a part [1,5]. Young maternal age, non-smokers, first pregnancies, multiple pregnancy, those with both high and low pre-pregnancy weight, and those who have had nausea and vomiting in a previous pregnancy have an increased risk of developing severe nausea and vomiting [6].

Will the nausea and vomiting affect the baby?

Not usually. The baby gets nourishment from your body's reserves even though you may not be eating well. The effort of retching and vomiting does not harm your baby. The only time your baby may be affected is if you become very dehydrated [7].

How can the nausea and vomiting be treated?

Anti-sickness (anti-emetic) medication may be required to relieve the sickness, but sometimes additional fluids may need to be given in hospital. Anti-emetic drugs will help with the symptoms of nausea but not cure you completely.

If fluid therapy is indicated you may be:-

- treated (ideally) as a day case (in GAU/MAU)

or

- admitted to the gynaecology ward for treatment as an in-patient

What treatment will be given for daycase management in the Gynaecology/Maternity Assessment Unit (GAU/MAU)?

You will be assessed by the nurses in GAU to establish if intravenous drip treatment and / or anti-sickness medication are required. The nurse looking after you will take some personal and medical details, record your blood pressure, pulse, temperature and weight, and ask for a sample of urine.

If treatment is indicated, you will be allocated a comfortable chair during this time. You will be provided with a vomit bowl, and each time you need to pass urine, you will be asked to use a receiver to allow us to measure the volume and check the level of 'ketones'. You may also have some blood samples taken and a cannula may be inserted to give you fluids by drip into one of your veins (intravenous fluid therapy).
You will also be seen by a doctor to establish if there is another cause of the nausea and vomiting.
If you have not had an ultrasound scan then a scan may be advised to rule out a twin pregnancy (this may be planned for after 8 weeks and may be on another visit).

After a few hours, you will be encouraged to eat and drink and at the end of the day, you will be assessed again to establish if you are well enough to go home. If you are not well enough, you will be admitted to the hospital for continued treatment.

What will happen if I am admitted to hospital?

If hospital admission is required, you will be assessed and treated as above, and overnight stays may be required until you can tolerate food and fluids.

What else can help with nausea and vomiting in pregnancy?

- Drinking plenty of fluids will help, small and regular amounts.
- Eating small but frequent meals can help. Foods high in carbohydrates are best, such as bread, crackers, etc. Some people say that sickness is made worse by not eating at all.
- Eating a plain or ginger biscuit before getting up is said by some women to help.
- Avoiding spicy and strong smelling foods is said to help also. Some women find that certain food odours can trigger nausea. Cold foods are probably best as they emit least smells.
- Some complimentary therapies are suggested to help the symptoms of nausea and vomiting:

Ginger is said to help with nausea, although there is no firm evidence to support this [5]. This can be taken in the form of a biscuit, ginger ale, capsules or ground powder.
Vitamin B supplements are also considered to be useful but research is vague about its effectiveness [5].
Acupressure in the form of sickness bands, worn on the wrists, is also recommended by numerous sufferers but again research does not strongly support this method [5].

Discharge advice.

- Continue to drink plenty of fluids to avoid dehydration, especially in warm weather. Drink small amounts regularly and aim to drink at least two litres a day. Water is probably the best drink if you are feeling nauseous.
- Eating little and often is also better than eating large amounts all at once.
- If you have been discharged with anti-sickness medication then continue to take these for at least a week even if you feel that you do not need them and then decrease them daily. Do not stop them suddenly. This will minimize the risk of a relapse and re-admission to hospital.
- Following your admission or daycase treatment, if you feel you need to attend the clinic for further assessment or treatment, you must contact the GAU with your details and you will be advised accordingly.

https://www.rcog.org.uk/en/patients/patient-leaflets/pregnancy-sickness/

NHS Choices: *Nausea and morning sickness* (www.nhs.uk/conditions/pregnancy-and-baby/pages/morning-sickness-nausea.aspx)

Pregnancy Sickness Support: www.pregnancysicknesssupport.org.uk

Documentation Control

Reference Number: Maternity/01:23/H10 Gynae/01:23/H1	**Version: UHDB 1st version**		**Status: FINAL**	
Version Amendment	Version	Date	Author	Reason
	1	2002	Mr I Symonds Consultant	
	2	2007	Dr K Dent Consultant	Review
	3	2013	Yvonne Ormsby GAU Practitioner Dr E Burgess, Cons A&E Dept.	Updated to reflect current practice
	4	Dec 2016	Mr J Allsop – O&G Consultant	Review / update
WC/OG/93	**Burton Trust prior to merged document:**			
Original 2014	2	May 2018		Review & update
Version control for UHDB merged document:				
UHDB	1	March 2020	Miss A Tirlapur – O&G Consultant	Review & merge
	2	January 2024	Miss A Tirlapur – O&G Consultant	Review - no changes
Intended Recipients: All staff involved in the care of women suffering hyperemesis				
Training and Dissemination: Cascaded electronically through lead sisters midwives / doctors via NHS.net, Published on Intranet, Article in Business unit newsletter;				
To be read in conjunction with:				
Development /review of Guideline:	Miss A Tirlapur – O&G Consultant			
Consultation with:	Obstetric & Gynaecology staff			
Approved By:	15/01/24: Gynaecology Guidelines Group: Miss B Purwar – Chair 15/01/24: Gynaecology Development & Governance Committee – Mr V Asher 16/01/24: Divisional Governance:			
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Key Contact:	Joanna Harrison-Engwell			