



Nausea and Vomiting - Pregnancy

1. Purpose

This guideline outlines the details for the care of women who experience nausea and vomiting during pregnancy at the Women's.

Nausea and vomiting is the most common medical condition in pregnancy, affecting up to 90% of women (1). Persistent vomiting that leads to weight loss of greater than 5% of pre-pregnancy weight occurs in 1% of pregnancies and is referred to as hyperemesis gravidarum. This is associated with electrolyte abnormalities and dehydration.

Nausea and vomiting of pregnancy usually begins at 6-7 weeks of gestation, peaks at around 9 weeks of gestation, and resolves in most cases by 12-14 weeks. In up to 20% of pregnancies, symptoms continue beyond 20 weeks (1). Despite being commonly known as "morning sickness", it is not confined to the morning.

Nausea and vomiting of pregnancy may be classified as mild, moderate or severe, although this may not correlate with the distress caused. Nausea and vomiting of pregnancy can have a profound effect on a woman and her family's health and quality of life, therefore early recognition and management is important.

2. Definitions

Hyperemesis gravidarum is a severe form of morning sickness, with excessive pregnancy-related nausea and/or vomiting that prevents adequate intake of food and fluids.

Morning sickness symptoms include nausea and vomiting. For most women, morning sickness begins around the sixth week of pregnancy and resolves by the 12th week. However, one in five women endure morning sickness into their second semester, and an unfortunate few experience nausea and vomiting for the entire duration of their pregnancy.

3. Responsibilities

Medical Staff to order appropriate investigations, medications and intravenous fluid replacement.

Nursing/midwifery staff to provide nursing care and observation of woman during hospital admission.

Dietitian to provide support and advice for ongoing diet and nutrition.

Pharmacist to provide information, counselling and supply of medicines.

4. Guideline

4.1 Management

History and examination

The pathogenesis of nausea and vomiting of pregnancy and hyperemesis gravidarum is poorly understood and probably multifactorial. Idiopathic nausea and vomiting of pregnancy must be distinguished from that caused by gestational trophoblastic disease or multiple pregnancy and from other causes of nausea and vomiting such as gastrointestinal (peptic ulcer disease, GI obstruction, hepatitis, pancreatitis), genitourinary, central nervous system and toxic / metabolic problems (thyroid disease, adrenocortical insufficiency).

Investigations include:

- urinalysis & MSU
- electrolytes (consider calcium), LFTs, plasma glucose, TSH once (beware interpretation of TFT in early pregnancy)
- early pregnancy ultrasound.

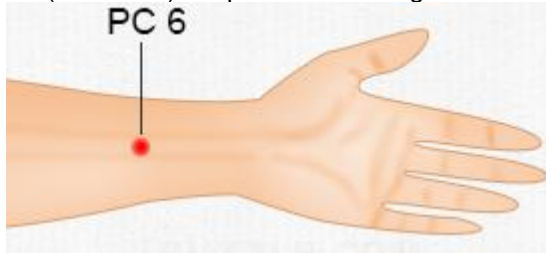
Dietary & Lifestyle Changes

Dietary and lifestyle changes should be encouraged. Women should be advised about appropriate foods and fluids to prevent dehydration and minimize aggravation of symptoms. General nutritional advice include the intake of small amounts of fluid and food throughout the day rather than eating fewer but larger meals. Foods should be rich on carbohydrates and low in fat and acid (1).

Nausea and Vomiting - Pregnancy

Sleep requirement increases in early pregnancy and fatigue exacerbates nausea and vomiting of pregnancy. A liberal attitude towards leaves-of-absence from work should ultimately shorten the number of days lost from work. Suggestions include:

- adequate oral fluid intake to prevent dehydration
- suitable multivitamin supplement if poor oral intake persists
- dietitian referral
- P6 (Nei Guan) acupressure – using wristbands e.g. SeaBand® (some evidence of efficacy)(2)



- Short term use of [ginger](#) (<1000mg daily) for the treatment of nausea and vomiting during pregnancy has not been associated with an increased risk of congenital malformations or adverse pregnancy outcomes (3-10).

4.2 Pharmacological treatment

Mild or moderate symptoms

Previous severe nausea and vomiting of pregnancy or hyperemesis gravidarum (pre-emptive therapy recommended).

Progress through the following list of medicines until symptoms are under controlled.

[Pyridoxine](#) 25 mg orally, in the morning and at midday, and at night (11). Add [doxylamine](#) (Restavit®) 25 mg orally, at night. Increase as tolerated to 12.5 mg in the morning and at midday, and 25 mg at night. Note: due to the relative lack of evidence, use of pyridoxine is optional.

Add either of the following if not improving:

[Metoclopramide](#) (Maxolon®, Pramin®) 10mg orally three times a day for up to 5 days only in order to minimise the risk of neurological and other adverse effects **OR**

[Prochlorperazine](#) (Stemetil®) 5 to 10mg orally two to three times a day

Add another sedating antihistamine: [Promethazine](#) (Phenergan®) 10 to 25mg orally three to four times a day

[Ondansetron](#) (Zofran®) 4mg to 8mg orally (tablet or wafer) two or three times a day. Must be approved by Head of Unit.

Severe, persistent or resistant nausea and vomiting

If severe, persistent or resistant nausea and vomiting is not relieved by the above measures,

consider changing regimen to any of the following:

- [Metoclopramide](#) 10mg IV/IM every 8 hours when required when required for a maximum of 5 days, maximum 30mg/day **OR**
- [Prochlorperazine](#) 12.5mg IM/slow IV every 8 hours **OR**
- [Ondansetron](#) 4mg IV/IM every 8 to 12 hours **OR**
- [Promethazine](#) 12.5 to 25mg IM 4 to 6 hourly **OR**
- [Chlorpromazine](#) 10 to 25mg IV/IM every 4 to 6 hours

Corticosteroids can be considered after the first trimester. Although early reports have suggested an association between corticosteroid use and an increased risk of cleft lip and palate (12), more recent data have shown no increased risk of orofacial clefts or preterm delivery (13-16). Use only if maternal benefits outweigh risks to fetus.

[Hydrocortisone](#) 100mg IV every 12 hours, once clinical improvement occurs, convert to oral prednisolone (17).

[Prednisolone](#) 50 mg orally daily for 3 days, then reduce to 25mg at 3 days then reduce by 5mg as tolerated until resolved (monitor blood glucose levels and consider prophylaxis with [ranitidine](#) 300 mg daily to prevent GI upset).

4.3 Admission for intravenous fluids

- Admit if dehydrated +/- ketotic for IV fluid resuscitation and electrolyte restoration with sodium chloride 0.9% – administer IV fluid volume as per clinical assessment. If hypokalaemic, the woman may require potassium supplementation (oral route preferred).
- A water-soluble vitamin B complex mixture (IV B Dose® - contains thiamine (B1) 10 mg, riboflavine (B2) 5 mg, nicotinamide (B3) 100 mg, dexpanthenol (B5) 20 mg and pyridoxine (B6) 50 mg) should be added to IV fluids - 1 vial of IV B Dose® may be administered in the 'stat' litre or the second (2 hourly) litre.
- If adequate oral fluid intake cannot be maintained, IV hydration should be administered regularly (e.g. 2 to 3 times per week) in order to prevent dehydration. This can be performed in the Pregnancy Day Care Centre (PDCC) during normal working hours.
- [Thiamine](#) 100mg to 200mg IV daily for 2 to 3 days in women needing rehydration should only be considered if there is an established risk of thiamine deficiency. Please note: thiamine injection is only available via the Special Access Scheme (SAS). Please contact the Pharmacy Department for supply.
- Consideration should be given to thiamine (Betamin®) supplementation to prevent the complication of Wernicke's encephalopathy. The suggested dose of thiamine is 100mg orally daily
- Women may require antacids, H2 antagonists [ranitidine] if gastritis develops.
- In severe or complex cases, women who do not respond to any of these intervention and continue to lose weight should be supported with enteral or parenteral nutrition (18). Enteral nutrition provides more relief from nausea and vomiting compared to parenteral nutrition (19).
- Total parenteral nutrition (TPN) may be useful in highly refractory cases in order to ensure a sufficient calorie intake (1). However, there is no evidence to support the use of TPN and it should only be used as a last resort when all other treatments have failed, as it can be associated with severe complications such as thrombosis, metabolic disturbances and infection.

Note: Women who fail to respond to the above management should be assessed for enteral feeding (refer to a Dietitian [at Parkville](#) for consultation).

5. Evaluation, monitoring and reporting of compliance to this guideline

Compliance to this guideline will be measured by review of incidents reported in VHIMS.

6. References

1. Jueckstock JK, Kaestner R, Mylonas I. Managing hyperemesis gravidarum: a multimodal challenge. BMC Med. 2010;8:46.
2. Steele NM, French J, Gatherer-Boyles J, Newman S, Leclair S. Effect of acupressure by Sea-Bands on nausea and vomiting of pregnancy. J Obstet Gynecol Neonatal Nurs. 2001;30(1):61-70.
3. Thomson M, Corbin R, Leung L. Effects of ginger for nausea and vomiting in early pregnancy: a meta-analysis. J Am Board Fam Med. 2014;27(1):115-22.

4. Boltman-Binkowski H. A systematic review: Are herbal and homeopathic remedies used during pregnancy safe? *Curationis*. 2016;39(1):1514.
5. Borrelli F, Capasso R, Aviello G, Pittler MH, Izzo AA. Effectiveness and safety of ginger in the treatment of pregnancy-induced nausea and vomiting. *Obstet Gynecol*. 2005;105(4):849-56.
6. Ding M, Leach M, Bradley H. The effectiveness and safety of ginger for pregnancy-induced nausea and vomiting: a systematic review. *Women Birth*. 2013;26(1):e26-30.
7. Choi JS, Han JY, Ahn HK, Lee SW, Koong MK, Velazquez-Armenta EY, et al. Assessment of fetal and neonatal outcomes in the offspring of women who had been treated with dried ginger (*Zingiberis rhizoma siccus*) for a variety of illnesses during pregnancy. *J Obstet Gynaecol*. 2015;35(2):125-30.
8. Heitmann K, Nordeng H, Holst L. Safety of ginger use in pregnancy: results from a large population-based cohort study. *Eur J Clin Pharmacol*. 2013;69(2):269-77.
9. Portnoi G, Chng LA, Karimi-Tabesh L, Koren G, Tan MP, Einarson A. Prospective comparative study of the safety and effectiveness of ginger for the treatment of nausea and vomiting in pregnancy. *Am J Obstet Gynecol*. 2003;189(5):1374-7.
10. Viljoen E, Visser J, Koen N, Musekiwa A. A systematic review and meta-analysis of the effect and safety of ginger in the treatment of pregnancy-associated nausea and vomiting. *Nutrition journal*. 2014;13:20.
11. Nausea and vomiting during pregnancy [database on the Internet]. eTG complete, Therapeutic Guidelines Limited. 2018 [cited 10/12/2018].
12. Park-Wyllie L, Mazzotta P, Pastuszak A, Moretti ME, Beique L, Hunnisett L, et al. Birth defects after maternal exposure to corticosteroids: prospective cohort study and meta-analysis of epidemiological studies. *Teratology*. 2000;62(6):385-92.
13. Bay Bjorn AM, Ehrenstein V, Holmager Hundborg H, Aagaard Nohr E, Toft Sorensen H, Norgaard M. Use of corticosteroids in early pregnancy is not associated with risk of oral clefts and other congenital malformations in offspring. *Am J Ther*. 2012.
14. Werler MM, Bower C, Payne J, Serna P. Findings on potential teratogens from a case-control study in Western Australia. *Aust N Z J Obstet Gynaecol*. 2003;43(6):443-7.
15. Gur C, Diav-Citrin O, Shechtman S, Arnon J, Ornoy A. Pregnancy outcome after first trimester exposure to corticosteroids: a prospective controlled study. *Reprod Toxicol*. 2004;18(1):93-101.
16. Hviid A, Molgaard-Nielsen D. Corticosteroid use during pregnancy and risk of orofacial clefts. *CMAJ*. 2011;183(7):796-804.
17. Gynaecologists RCoOa. Green-top Guideline No. 69: The management of nausea and vomiting of pregnancy and hyperemesis gravidarum. 2016.
18. Abramowitz A, Miller ES, Wisner KL. Treatment options for hyperemesis gravidarum. *Arch Womens Ment Health*. 2017;20(3):363-72.
19. Hsu JJ, Clark-Glena R, Nelson DK, Kim CH. Nasogastric enteral feeding in the management of hyperemesis gravidarum. *Obstet Gynecol*. 1996;88(3):343-6.

7. Legislation related to this guideline

Not applicable

8. Appendices

Appendix 1: [Nausea and Vomiting of Pregnancy: Medical Treatment Algorithm](#)

Nausea and Vomiting - Pregnancy

Please ensure that you adhere to the below disclaimer:

PGP Disclaimer Statement

The Royal Women's Hospital Clinical Guidelines present statements of 'Best Practice' based on thorough evaluation of evidence and are intended for health professionals only. For practitioners outside the Women's this material is made available in good faith as a resource for use by health professionals to draw on in developing their own protocols, guided by published medical evidence. In doing so, practitioners should themselves be familiar with the literature and make their own interpretations of it.

Whilst appreciable care has been taken in the preparation of clinical guidelines which appear on this web page, the Royal Women's Hospital provides these as a service only and does not warrant the accuracy of these guidelines. Any representation implied or expressed concerning the efficacy, appropriateness or suitability of any treatment or product is expressly negated

In view of the possibility of human error and / or advances in medical knowledge, the Royal Women's Hospital cannot and does not warrant that the information contained in the guidelines is in every respect accurate or complete. Accordingly, the Royal Women's Hospital will not be held responsible or liable for any errors or omissions that may be found in any of the information at this site.

You are encouraged to consult other sources in order to confirm the information contained in any of the guidelines and, in the event that medical treatment is required, to take professional, expert advice from a legally qualified and appropriately experienced medical practitioner.

NOTE: Care should be taken when printing any clinical guideline from this site. Updates to these guidelines will take place as necessary. It is therefore advised that regular visits to this site will be needed to access the most current version of these guidelines.

Nausea and Vomiting of Pregnancy: Medical Treatment Algorithm

**Note: Refer to Clinical Guideline for more detailed information.
Admit for intravenous fluids if dehydrated.
If the woman's condition does not improve go to the next step.**

