# Nausea and Vomiting of Pregnancy

## Definition

Nausea and vomiting of pregnancy (NVP) represents a spectrum of conditions. NVP is the most common medical condition of pregnancy; 70% of pregnant women suffer NVP. About one third has only nausea, two thirds have varying frequency of nausea, vomiting and retching. Overall, 70% characterized their symptoms as moderate to severe. Symptoms peak at nine weeks, but almost one quarter of women continues to suffer into the third trimester. Hyperemesis Gravidarum (HG) is the most severe manifestation of NVP affecting 1.1% of pregnant women. HG can be life-threatening and is associated with serious consequences for the fetus (IUGR). Other causes of nausea and vomiting must be ruled out. NVP adversely impacts on the woman’s quality of life and her productivity; it costs the US $2 billion/year. Therapy should be initiated early to prevent progression. Often both patients and clinicians underestimate the importance of symptom control. Dietary, lifestyle and often medical therapies are needed. Treatment of associated conditions, such as heartburn and acid reflex, can reduce the intensity of symptoms of NVP.

## Subjective

Must include:

1. Complaints of nausea with or without vomiting/retching, often more pronounced in morning.
2. Aversion to (certain) food(s).

May include:

1. Complaints of acid reflux, especially in the supine position.
3. No preconception folic acid supplementation.
4. Personal and/or family history of NVP.

Must exclude:

1. *Hyperemesis gravidarum (HG)* symptoms.
   a. Inability to keep down any liquid or solid food.
   b. Weight loss.
   c. Decreased urine production.
   d. Dizziness, weakness.
2. Symptoms of other causes of nausea/vomiting. (See Table 1).
   a. Fever, chills (infectious processes).
   b. Severe headaches, scotomata (severe pre-eclampsia).
   c. Onset of symptoms after 9 weeks’ gestational age.

## Objective

Must include:

1. Moist mucous membranes.
2. Normal temperature, normal heart rate.
3. No more than minimal weight loss.

Must exclude:

1. *Hyperemesis gravidarum (HG)* findings.
   a. Greater than 5% weight loss.
   b. Dry mucous membranes.
   c. Tachycardia.
   d. Orthostatic hypotension.
   e. Oliguria.
2. Signs of other etiologies (See Table 1).
   a. Abnormal tenderness (except epigastric tenderness).
   b. Rebound tenderness.

May include:

a. Thyroid nodule.
b. Abnormal neurologic finding.
LABORATORY  May include:
1. Ketonuria.
2. Increased urine concentration.

Must exclude:
1. Hyperemesis Gravidarum lab-values.
   a. Ketonemia.
   b. Electrolyte imbalance.
2. Laboratory findings consistent with other etiologies
   a. Elevated WBC.

ASSESSMENT  Nausea and vomiting of pregnancy (mild to moderate).

PLAN  **MILD to MODERATE** nausea and vomiting of pregnancy:
1. Nutritional counseling to avoid foods with strong odors and those that precipitate symptoms such as fatty or spicy foods or iron. Recommend small frequent meals and hydration. Higher protein meals may be better than meals high in fat or carbohydrates. (See Table 2).
2. For women with mild nausea and only limited vomiting unresponsive to dietary changes, use one of the following therapies:
   a. Diclegis delayed release (10 mg antihistamine doxylamine succinate and 10 mg vitamin B6 analog pyridoxine hydrochloride). Take 2 tablets orally with water on empty stomach at bedtime (70% reduction expected). If effect is not sufficient next day, add 1 additional tablet in the morning. If after 2 additional days, symptoms not adequately controlled, add 1 tablet mid-afternoon.
      a) Maximum dose is 4 tablets a day.
      b) Always taken on empty stomach due to poor absorption.
      c) Never crush, chew or split tablets.
      d) **Do not take** with any other CNS depressants (alcohol, antihistamines, narcotics, sleep aids) or monamine oxidase inhibitors.
      e) Avoid driving or use of heavy machinery until certain patient not somnolent, dizzy or tired with use.
   b. If unable to obtain FDA-approved combination product (Diclegis), may use components.
      1) Pyridoxine (vitamin B6) 10-25 mg orally 2-3 times a day.
      2) Doxylamine succinate (Unisom sleep tab) 25 mg ½ tab or 5 mg chewable tab 2 tabs orally 2-3 times per. (See notes for Diclegis) **Beware: Not Unisom sleep gels.**
   c. Ginger 250 mg capsule or syrup four times a day for 3 days may be used alone or added to any of the above therapies. Will reduce nausea, but not vomiting/retching. (**Contraindicated in women with history of DVT or PE.**)
   d. Have patient return in 1 week for re-evaluation or earlier if symptoms worsen.
3. If above therapies do not provide adequate relief and patient has no signs of dehydration (hyperemesis gravidarum or other etiologies), consider testing for LFTs, or for Helicobacter pylori. Substitute one of the following for doxylamine:
   a. Promethazine (Phenergan) 12.5-25 mg every 4 hours orally or rectally.
   b. Dimenhydrinate (Dramamine), 50-100 mg every 4-6 hours orally (not to exceed 400 mg per day; not to exceed 200 mg per day if patient is also taking doxylamine).
   c. Have patient return within 1 week.
4. If NVP persistently severe, but patient does not meet criteria for HG, consider using:
   a. Metoclopramide 10 mg orally every 8 hours. Limit use to < 12 weeks. May cause irreversibly tardive dyskinesia. Advise patient to stop drug immediately and go to ER if she feels any involuntary movements.
5. Advise patient to go to ER if she develops dizziness, weakness, or inability to tolerate any fluids.
6. Delay FeS04 supplementation if patient has nausea or vomiting with treatment unless severely anemic.
PLAN
(Continued)
7. Some studies have suggested that P-6 acupressure at Neiguan point (inside surface of wrist) with products such as the Sea Band wristband reduce the severity and frequency of nausea and vomiting when used for short term use. Metaanalysis showed these products were no better than placebo.
8. If patient also has complaints of heartburn or acid reflux, offer one of the following:
   a. Over-the-counter antacids (Maalox, Mylanta, Rolaids, Tums, etc.).
   b. Histamine-2 blocker
      1) Tagamet (cimetidine) 100-200 mg orally when needed (not to exceed 400 mg/day).
      2) Pepcid (famotidine) 10 mg orally up to twice a day.
      3) Zantac (ranitidine) 75 mg orally 30-60 minutes before eating (limit twice a day).
   c. Proton pump inhibitor (use in consultation with MD):
      1) Omeprazole (Prilosec) 10 mg one hour before meals up to twice a day.
      2) Lansoprazole (Prevacid) 15 mg orally one daily.
      3) Omeprazole/sodium bicarbonate (Zegerid) 20 mg orally once daily.
9. Screen for depressive symptoms, or behavioral modification therapies or symptoms of anxiety, especially in teens and women with severe or persistent problems. Consider referral for psychotherapy.

SEVERE Nausea and vomiting of pregnancy: Refer to ER or obtain immediate MD consult.

PATIENT EDUCATION
MILD to MODERATE Nausea and vomiting of pregnancy:
1. Reassure women that while NVP is associated with more primary complications, women who suffer these symptoms have mostly favorable delivery and birth outcomes.
2. Discuss appropriate diet for nausea and vomiting in pregnancy. Advise patient to:
   a. Avoid empty stomach.
   b. Eat small, bland, frequent meals (6-7 times a day).
   c. Avoid spicy or greasy foods.
   d. Eat crackers or dry toast before rising.
   e. Drink ginger ale, ginger tea or eat ginger snaps.
   f. Sip fluids throughout the day.
   g. Elevate head of bed.
2. Suggest that patient seek an environment with adequate ventilation and attempt to minimize food preparation. Avoid strong odors, heat, humidity, noise. (Congenitally anosmic women rarely get NVP) (See Table 2).
3. Discuss with patient that evidence of efficacy of other therapies is minimal.
4. Caution patient that doxylamine may cause significant drowsiness.
5. Provide specific instructions for Diclegis
   a. Maximum dose is 4 tablets a day.
   b. Always taken on empty stomach due to poor absorption.
   c. Never crush, chew or split tablets.
   d. Do not take with any other CNS depressants (alcohol, antihistamines, narcotics, sleep aids) or monoamine oxidase inhibitors. (MOI)
   e. Avoid driving or use of heavy machinery until certain patient not somnolent, dizzy or tired with use. (Common side effects).
   f. Be aware of side effects: dyspnea, palpitations, tachycardia, vertigo, blurred vision, visual disturbances, change in bowel habits, fatigue, mood changes, rash, anxiety, and headache.
   g. Keep medications away from children.

REFER to MD
1. Women with severe nausea and vomiting should be referred to the ER for hospitalization.
2. Mild to moderate nausea and vomiting in pregnancy which has not responded to above therapies.
3. Refer to ER if any signs or symptoms of hyperemesis gravidarum.

REFERENCES
|------------------------|----------------------------------------|
TABLE 1: Differential Diagnosis of NPV

<table>
<thead>
<tr>
<th>Gastrointestinal conditions</th>
<th>Metabolic conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastroenteritis</td>
<td>Diabetic ketoacidosis</td>
</tr>
<tr>
<td>Gastroparesis</td>
<td>Porphryia</td>
</tr>
<tr>
<td>Achalasia</td>
<td>Addison’s disease</td>
</tr>
<tr>
<td>Biliary tract disease</td>
<td>Hyperthyroidism</td>
</tr>
<tr>
<td>Hepatitis</td>
<td>Hyperparathyroidism</td>
</tr>
<tr>
<td>Intestinal obstruction</td>
<td>Neurologic disorders</td>
</tr>
<tr>
<td>Peptic ulcer disease</td>
<td>Pseudotumor cerebri</td>
</tr>
<tr>
<td>Pancreatitis</td>
<td>Vestibular lesions</td>
</tr>
<tr>
<td>Appendicitis</td>
<td>Migraine headaches</td>
</tr>
<tr>
<td>Conditions of the genitourinary tract</td>
<td>Tumors of the central nervous system</td>
</tr>
<tr>
<td>Pyelonephritis</td>
<td>Lymphocytic hypophysitis</td>
</tr>
<tr>
<td>Uremia</td>
<td>Miscellaneous conditions</td>
</tr>
<tr>
<td>Ovarian torsion</td>
<td>Drug toxicity or intolerance</td>
</tr>
<tr>
<td>Kidney stones</td>
<td>Psychologic conditions</td>
</tr>
<tr>
<td>Degenerating uterine leiomyoma</td>
<td>Pregnancy-related conditions</td>
</tr>
<tr>
<td></td>
<td>Acute fatty liver of pregnancy</td>
</tr>
</tbody>
</table>

TABLE 2: Management of Symptoms of Nausea and Vomiting of Pregnancy*

Dietary recommendations
- Eat small portions every 1-2 hours
  - Use dry, salty, bland and soft foods
  - Add protein to all meals and snacks (nuts, nut butters, seeds, beans, dairy)
- Drink at least 2 liters of fluid a day
  - Colder fluids (slushes, popsicles, ice chips) help
  - Fluids with electrolytes help prevent dehydration (sports drinks, vitamin waters)
- For bitter or metallic taste
  - Suck candies, gums, colder fluids
- For constipation
  - Add dietary fiber (psyllium, fruits)
  - Docusate sodium (Colace) daily
- For gastric acidity (burping, burning, indigestion, reflux)
  - Change diet
  - Elevate head on 2 pillows in bed
  - Add antacids, H2-blocker, or PPI’s daily or when needed
Other suggestions
- For heightened sense of smell (sensitivity to strong odors)
  - Sniff citrus (lemons, limes, oranges)
  - Ventilate room
  - Consume room temperature or cold foods
- Avoid brushing teeth after eating
- Avoid lying down after eating
- Snack before rising and move up slowly
- Get plenty of rest. Avoid fatigue.
- Ask for help from friends and family
- Use chewable folic acid or prenatal vitamins