Shifrah
FOR AN EASIER NINE MONTHS

Hyperemesis Gravidarum (HG) Treatment Guide

HEALTHCARE PROVIDER VERSION

HG is severe nausea and/or vomiting in pregnancy that limits the ability to eat, drink, and function normally. HG may impact up to 10% of pregnancies.

Windsor Definition for Diagnosis: International Consensus

The following criteria are required for the definition of HG:

- Symptoms start in early pregnancy, before a gestational age of 16 weeks
- Characterized by severe nausea and/or vomiting
- Inability to eat and/or drink normally
- Strongly limits daily activities

Signs of dehydration were deemed contributory but not mandatory for the definition of HG; weight loss was not included in the criteria.

This definition can be used as a guide for the diagnosis of HG, but is not intended to exclude women exhibiting symptoms of nausea and/or vomiting from treatment.

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General Guidelines

- HG usually requires multiple medications and supplements at effective doses to control symptoms.
- Medications and supplements used to treat HG are generally considered safe in pregnancy. Consider potential interactions with other medications and supplements the patient is already taking.
- Medications are generally most effective when prescribed on a strict schedule, not PRN.
- Medications can often take approximately 48 to 72 hours (hrs) to take full effect.
- The goal of treatment is to prevent vomiting and reduce nausea to enable eating, drinking, and basic functioning as well as to support nutritional needs.

Stage One

Preparing for Pregnancy

Supplements

If the patient had HG in a previous pregnancy or is at high risk of HG, consider advising her to take supplements at least 3 to 6 months before pregnancy to help prevent complications and minimize symptoms of more severe HG.

Shifrah has formulated a specialized supplement regimen to prepare for pregnancy.

Contact us at **info@shifrah.org** for details.

Bloodwork is recommended to check for nutritional deficiencies which may require higher doses.

Notes

Stage Two

Pregnancy, Mild HG

Consider the following **immediately** with the patient's first symptoms of nausea and/or vomiting in early pregnancy, which may help minimize symptoms and improve outcomes.

A. Supplement Adjustments

When nausea causes difficulty tolerating supplements from Stage One, consider adjusting supplementation. Recommended daily with food.

PRENATAL MULTIVITAMIN* pill, capsule, mini or chewable	Including 600 mcg folate and 18 mg iron
VITAMIN B1** Benfotiamine or Thiamine TTFD	200 mg
VITAMIN D3 WITH VITAMIN K2***	4,000 IU
VITAMIN B6	150 mg****

Continue other supplements from Stage One as tolerated.

* If unable to tolerate prenatal multivitamins, it is important for the patient to take folate 1 mg (1000 mcg) daily.

** **B1 supplementation is crucial to prevent neurological complications from B1 deficiency.**

*** Switch to oral Vitamin D3 with K2 drops if preferred.

**** If taking Diclegis® or Bonjesta®, limit B6 to 100 mg daily.

B. Acid Reducer

Recommended to help reduce nausea when the patient is eating less than usual, even without symptoms of heartburn or reflux.

FAMOTIDINE Pepcid® pill or IV	20-40 mg qhs

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Stage Two
Pregnancy, Mild HG

C. Antihistamines

Doxylamine*
Choose **ONE** option.**

Rx BONJESTA® Doxylamine/B6 immediate/slow release	1 tablet (20 mg) BID or TID
Rx DICLEGIS® **Diclectin®/Xonvea®** Doxylamine/B6 slow release	1-2 tablets (10 mg) TID (2 qhs, 1-2 in the am, 1-2 in the afternoon)
UNISOM® Doxylamine pill	12.5 mg q6h May increase bedtime dose to 25 mg to help with sleep

Other Antihistamine Options
If doxylamine is not accessible or effective, consider **ONE** of these other options.

DIPHENHYDRAMINE** **Benadryl®**, pill or IV	25-50 mg q4-6h
MECLIZINE **Dramamine Nausea®** **Bonine®** pill or chewable **less drowsy**	25 mg q6-8h
CYCLIZINE*** pill	25 mg q6-8h
DIMENHYDRINATE **Dramamine Original®** **Gravol®** pill, chewable, or IV	25-50 mg q4-6h

* In our experience, prescription forms of Doxylamine/B6 are **significantly** more effective than OTC options.

** If doxylamine or diphenhydramine is too sedating, it can be used at bedtime with meclizine used during the day.

*** Not available in the U.S.A.

Stage Three
Pregnancy, Moderate to Severe HG

If the patient's symptoms persist and she has reduced food and/or fluid intake and ability to function, we recommend continuing everything from Stages One and Two and **immediately** consider adding one choice from **every category** in Stage Three that applies.

A combination of multiple medications is usually necessary for greatest symptom relief.

In our experience, prescribing lower doses of medication more often may be more effective at controlling symptoms than higher doses less often.

If swallowing is difficult or pills are not having the desired effect, choose oral dissolving tablet (ODT), suppository, patch, subcutaneous (pump) or IV options.

IV formulations are generally considered most effective.

D. Rx Antiemetic Medication
(Serotonin Antagonists)

If vomiting, consider **immediately** prescribing one medication below to minimize symptoms and prevent complications. We have found that these medications are more effective when taken on a strict schedule at the same time every day.
Choose **ONE** option.

ONDANSETRON* **Zofran®** pill, ODT**, IV, subcutaneous	4 mg q4h or 8 mg q6h or 4 mg q3h Maximum 32 mg daily
GRANISETRON **Kytril®**, pill or IV	1 mg BID
GRANISETRON **Sancuso®** transdermal patch	One patch on upper arm, replaced every 7 days***

*** In our experience, primarily effective at controlling vomiting, with minimal effect on reducing nausea.**

** ODT can be more effective than pill and can be inserted as vaginal suppository or swallowed if taste is difficult to tolerate.

*** It can take up to 48 hrs for Sancuso® to take effect. We recommend prescribing Kytril® orally during that time.

Stage Three
Pregnancy, Moderate to Severe HG

E. Rx Anti-Nausea Medication
(Dopamine Antagonists)

Choose **ONE** option.

PROMETHAZINE **Phenergan®** pill or suppository*	For general nausea, 12.5 mg q3h, q4h, or q6h or 25 mg q4-6h
PROCHLORPERAZINE** **Compazine®** pill or suppository	For general nausea, 5-10 mg pill q6h or 25 mg suppository BID
METOCLOPRAMIDE** **Reglan®** pill, ODT or IV***	For nausea resulting from decreased gastric motility. In our experience, minimally effective for general nausea. 2.5-10 mg q6h

* Avoid promethazine in IV form as it can cause potentially irreversible tissue damage.

** It is not recommended to use prochlorperazine or metoclopramide for longer than 12 weeks.

*** If given in IV form, metoclopramide must be diluted in 100 mL fluid and infused over a minimum of 15 minutes to prevent side effects such as anxiety or panic attacks.

IV vitamins, especially IV B1 (thiamine) can help reduce nausea. See category I, IV Vitamins.

Notes

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Stage Three
Pregnancy, Moderate to Severe HG

F. Constipation Prevention

Consider advising the patient to take daily (unless experiencing loose stools) especially when taking antiemetic medication which often causes constipation. Choose **ONE** stool softener and **ONE** laxative.

Stool Softener
Daily in the morning.

DOCUSATE SODIUM **Colace®**, softgel	100-300 mg
MAGNESIUM Citrate or Oxide pill or chewable	400 mg daily
POLYETHYLENE GLYCOL **MiraLax®**, powder	1 capful dissolved in fluid

Laxative
Every other day hs or PRN.

SENNA **Senokot®** pill or chewable	Follow package directions
BISACODYL **Dulcolax®** pill or suppository	Follow package directions
GLYCERIN suppository	Follow package directions

Notes

Stage Three
Pregnancy, Moderate to Severe HG

G. Acid Blockers
(Proton Pump Inhibitors)

Acid blockers can be used if the patient is eating less than half of pre-pregnancy amount to reduce nausea and protect stomach and throat, even if no symptoms of acid reflux. Acid blockers can also be used if acid reducers are not effective at alleviating acid reflux symptoms.
Discontinue acid reducer and choose **ONE** option.

LANSOPRAZOLE **Prevacid®** capsule or ODT	15-30 mg qhs
ESOMEPRAZOLE **Nexium®** capsule or IV	20-40 mg qhs
℞ PANTOPRAZOLE **Protonix®** pill or IV	40 mg qhs
OMEPRAZOLE* **Prilosec®** pill or capsule	20-40 mg qhs

* Omeprazole (Prilosec®) is not recommended in the first trimester of pregnancy.

If acid symptoms are severe, acid reducers can be reintroduced in the am with acid blockers hs.

Higher doses of all acid blockers are available by prescription.

Notes

Stage Three
Pregnancy, Moderate to Severe HG

H. ℞ IV Fluid

Consider IV fluid if poor oral intake and/or signs of dehydration, including: decreased urination, concentrated urine, dizziness, dry skin and lips. Titrate frequency of fluid from 3 times a week to daily based on patient response, with an at home HCP or at an infusion center.

Types of Fluid*

NS (Normal Saline)	Standard fluid
LR (Lactated Ringer's or Hartmann's Solution)	Contains electrolytes, better for dehydration

Additives**

POTASSIUM	Can be significantly depleted with vomiting. Should be monitored regularly by bloodwork and replaced as needed.
DEXTROSE (D5/D10)	Dangerous in HG unless accompanied by 200 mg IV B1 per bag of fluid. Avoid dextrose whenever possible due to potential complications and increased nausea.

* If fluid is needed long-term, consider midline or peripherally inserted central catheter (PICC). Both carry risk of infection and blood clots and require regular monitoring.

** Blood chemistry (sodium, potassium, magnesium, ferritin, hemoglobin) should be monitored weekly, or more often if abnormalities are detected and supplementation is needed.

Running fluid over a minimum of 2 hrs is recommended to increase absorption.

Fluid can be warmed for comfort.

Consider prescribing medications through IV whenever possible for more effective symptom relief.

Do not exceed the maximum daily dosage of any medication or vitamin, including all forms in combination: oral, non-oral, and IV.

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Stage Three

Pregnancy, Moderate to Severe HG

I. ℞ IV Vitamins

IV vitamins can be added whenever prescribing IV fluid to reduce nausea and prevent complications. In most cases, the most important is IV B1 (thiamine). Consider adding the following in each liter of fluid.

IV B1 (Thiamine)	200-400 mg
IV B COMPLEX	1 mL*
IV MAGNESIUM Chloride	200 mg or as indicated by bloodwork
IV B6 (Pyridoxine)	100 mg (max 150 mg daily)

* B complex injection in U.S.A. generally contains in each mL: B1 (100 mg), B2 (2 mg), B3 (100 mg), B5 (2 mg), B6 (2 mg).

When vitamins are added, running fluid over 4-6 hrs can increase absorption and prevent adverse reactions.

IV multivitamin (Infuvite®) is not recommended due to added preservatives unless food and fluid intake is extremely minimal and the patient is unable to tolerate oral prenatal vitamins. Limit to three times per week.

Notes

Legend

℞: Prescription Required

: Tips

: **Warnings**

℞ Stage Four

Pregnancy, Additional Options

Consider the following for severe or unresponsive symptoms, or if medications in other categories are not well tolerated.

Ensure that all medication doses, combinations and forms from Stage Two and Stage Three were maximized first.

Additional Medication Options

METHYLPREDNISOLONE Steroids, pill or IV	Only after 10 weeks pregnant Avoid long term use
MIRTAZAPINE* **Remeron®**, pill or ODT	15 mg q8h
GABAPENTIN** pill	600 mg q6-8h***

Excessive Salivation

SCOPOLAMINE** patch	Generally ineffective for reducing nausea and vomiting

Supplemental Nutrition

Consider supplemental nutrition through a feeding tube or total parenteral nutrition (TPN), if weight loss is more than 7% of prepregnancy weight and/or continues past the fourth month of pregnancy.
Refer the patient for a nutrition consult.

* Consider having the patient discontinue other antiemetic medications.

** We recommend increasing folate to 5 mg daily when prescribing gabapentin.

*** We recommend titrating from 300 mg TID to 600 mg TID or QID over the first week of use.

**** Monitor closely for side effects if the patient is also taking antihistamines. Consider clonidine if scopolamine is not effective or is contraindicated.

Stage Five

Pregnancy and Postpartum, Recovery

If symptoms have significantly improved, consider titrating off of medication only after the first trimester, and after at least two weeks of adequate food and fluid intake. We recommend weaning one medication at a time, and monitoring response. If the patient relapses, immediately consider reintroducing medication.

We recommend taking medication as long as needed, even until delivery, to prevent relapse.

After the patient's HG symptoms have resolved or after giving birth, consider introducing Shifrah's recovery supplement regimen until 3 to 6 months postpartum or until 3 to 6 months after weaning from nursing. This is intended to replenish any nutritional deficits and support the nutritional health of the patient and her child.

Contact us at **info@shifrah.org** for details.

Medical Disclaimer

These treatment recommendations were compiled from clinical practice guidelines and medical literature and further informed by Shifrah's experience with the HG community. We are providing this resource to inform your practice and your discussions with patients suffering from HG. This material is provided for informational and educational purposes only and is not intended as medical advice. You should use your own medical judgment in making patient-specific treatment decisions, including decisions to prescribe or recommend dietary supplements and over-the-counter (OTC) and prescription (℞) medications and in what dosages and combinations. This information is not a substitute for individualized, professional medical advice, diagnosis, or treatment. Shifrah Care, Inc. dba Shifrah makes no representations, warranties or guarantees about the information provided. Shifrah is not responsible for any loss or other consequences related to use and/or application of any of the information provided.

For additional resources and case consultation, Shifrah is here for you.

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