

# Hyperemesis Gravidarum Management Protocol



## REHYDRATE METHODICALLY

Banana Bag + Vit B6 + Vit B1

Myer's Cocktail + 1 ampule MVI

D5NS or D5LR + 1 ampule MVI + Vit B6 + Vit B1

\*Add as needed: Vit K, Vit D, zinc, selenium, iron, magnesium and calcium



## IMPLEMENT COMPASSIONATE CARE

Women with HG are miserable for months and their concerns and requests should be taken seriously. Every possible comfort measure should be taken to minimize unnecessary suffering. Compassionate and effective treatment prevents therapeutic termination, and influences if mother and baby will suffer from physical and psychological complications (e.g. organ damage, trauma) during pregnancy and long-term.



## PRESCRIBE ANTIEMETIC MEDICATIONS

Start with a drug targeting the main triggers (e.g. motion). If numerous triggers, and/or more severe symptoms, consider serotonin antagonists. Multiple meds may be needed simultaneously throughout pregnancy. Be proactive and aggressive early in pregnancy if she has a history of HG. See tiered medication list below. [2](#)



## PREVENT OR TREAT ADDITIONAL ISSUES

Issues: ptyalism, GERD, encephalopathy, gastroparesis, UTI, insomnia, helicobacter pylori, cholestasis, debility  
Medication side effects: severe constipation, serotonin syndrome, anxiety, headache, extrapyramidal symptoms



## UTILIZE HER FOUNDATION RESOURCES

Share HER Foundation brochures & information ([HelpHER.org/info](http://HelpHER.org/info)). Support email: [GetHelpNow@HelpHER.org](mailto:GetHelpNow@HelpHER.org). Utilize HELP Score and HER HG Assessment & Management Clinical Tools ([HelpHER.org/tools](http://HelpHER.org/tools)).



YES

Is patient: Eating  $\leq 1$  meal per day? Dehydrated?  
Losing  $\geq 2$ lbs (1 kg)/week? Not responding to Rx?



NO

## INPATIENT CARE

- > Weigh every 1-2 days
- > Use comfort measures [2](#)
- > Rehydrate: D5LR or D5NS + MVI + B1/thiamin IV + B6/pyridoxine IV + electrolytes (treat mild deficiency)
- > Consider midline OR central/PICC line
- > Begin Enteral/Parenteral Nutrition [2](#)
- > Labs: Nutritional panel, CMP, electrolytes, urinalysis
- > Consults: Nutrition, PT, GI, home health, IV team
- > D/C: Intake  $>1$  meal/day + adequate fluid intake OR nutritional therapy + no ketones & maintaining or gaining weight. Goal: HELP Score  $\leq 20$

## HOME CARE

- > Weigh Monday/Wednesday/Friday
- > Complete HELP Score daily
- > Nutrition/Fluids: Enteral (NG/NJ or PEG/J) or Parenteral Nutrition (TPN/TPPN) or PICC/midline + D5LR or D5NS + MVI + vit B1 IV + vit B6 IV
- > Weekly labs if on TPN: CMP, electrolytes
- > D/C: Intake  $\geq 2$  meals/day + adequate oral fluids + no ketones + weight gain. Goal: HELP Score  $\leq 20$

[2](#) see page two for more detailed information

## OUTPATIENT CARE

### FIRST VISIT

- > Establish compassionate rapport
- > R/O: hydatiform mole (GTD), gall bladder & pancreatic disease, helicobacter pylori, hyperthyroidism
- > Labs: Urinalysis, hormone levels, comprehensive metabolic panel (CMP), thyroid panel

### EACH VISIT

- > Assess with HELP Score & HER Clinical Tools
- > Try prenatal with food or iron-free as tolerated
- > Weigh at least weekly & trend % weight loss
- > Labs prn dehydration: electrolytes, CMP, u/a, ketones
- > Encourage active oral care (e.g. water flosser) & eval
- > Evaluate & treat additional symptoms (see above)
- > Check WE signs (esp. if infusing glucose) [2](#)
- > Refer for consults & adjunctive care [2](#)
- > Diet: Encourage healthiest food tolerated, add thiamin 50 mg PO TID if high carbohydrate diet
- > Review medications [2](#) for tolerance/side-effects
- > Monitor thiamin & vitamin K & electrolyte needs

### 2nd & 3rd TRIMESTER

- > Labs: thyroid panel, iron, CMP
- > PT consult: weakness/atrophy, birth prep
- > Use alternate for Glucola (GTT), e.g. jelly beans, juice

# Hyperemesis Gravidarum Management Protocol

## ANTIEMETIC ESSENTIALS

- 1st: Δ dose/frequency
- 2nd: Δ route (SubQ, TD, compound)
- 3rd: Add/replace a medication
- Avoid abrupt Δ's in 1st trimester
- Wean over 2+ weeks if asymptomatic
- Prevent/proactively treat side-effects
- Cocktail: 1st level meds + 5HT3 antagonist + Reglan or Phenergan

## 1ST LEVEL MEDS

- Antihistamine
- Acid reducer
- Vitamins B1 & B6 50-150 mg/day
- Rx's successful in previous pg

## 2ND LEVEL MEDS

- Prokinetics (Reglan\* 5-10 mg QID)
- Proton pump inhibitors (PPI)
- Serotonin antagonists (ondansetron 8 mg QID, granisetron 2 mg BID or TD)
- Promethazine\* (Phenergan 25mg QID)
- Methylprednisolone (after 8 weeks)
- IV fluids/Nutritional therapy

## 3RD LEVEL MEDS/EXPERIMENTAL

**\*\*USE CAUTIOUSLY; SAFETY UNKNOWN\*\***

- Phenothiazines\* (e.g. chlorpromazine, prochlorperazine)
- Benzodiazepine (e.g. Diazepam)
- Neuroleptic (e.g. Inapsine)
- Remeron (mirtazapine)
- Anticonvulsants (e.g. neurontin)
- THC/marijuana (or Dronabinol Rx)
- Clonidine (Transdermal)

Δ = Change

\* Prophylax with antihistamines for anxiety; monitor for extrapyramidal symptoms & neuroleptic malignant syndrome

## WE/ODS ESSENTIALS

- Causes: Thiamin & electrolyte deficiency/shifts, infection, diuretics
- Signs: Δ in vision or speech or gait or mental status, abdominal pain, headache, cardiac symptoms, somnolence, dizziness, weakness, aphasia, tremor, irritability, spastic paresis, seizure, myalgia, myoclonus, anorexia, dysphagia, elevated transaminase
- Prevention: oral/IV thiamin ≥ 50 mg daily or TID; continue postpartum
- Acute Care: Thiamin 100 mg IV up to 500 mg/day until asymptomatic
- Diagnosis: MRI
- Result: Maternal & fetal morbidity or mortality (e.g. pre-eclampsia, SIDS)
- Onset: Acute (e.g. IV glucose or electrolytes) or Gradual/chronic

WE=Wernicke's encephalopathy  
ODS=Osmotic Demyelination Syndrome

## TPN/TPPN ESSENTIALS

- Prevent Refeeding Syndrome
- Add MVI + folic acid + B6 + B1 + Phosphorus + Mg + Vit D & K + Ca
- Labs: CMP weekly
- Strictly adhere to aseptic insertion technique & management protocols
- ⊖ Red flags: chest pain, shortness of breath, temp ≥ 101 F (38.3 C) or ≤ 96.8 F (36 C), redness/swelling/rash

## ENTERAL ESSENTIALS

- Prevent Refeeding Syndrome
- Check vitamin K & thiamin dose
- NG/NJ: Use pediatric tube; slow rate
- May need extra IV or fluid boluses

## COMFORT MEASURES

- Private room (avoid stimuli)
- Avoid IM injections (atrophy)
- Warm IV fluids/blankets
- Use lidocaine before IVs
- Midline/PICC vs. peripheral IV's
- Offer preferred foods when least ill

## CONSULTS/ADJUNCTIVE CARE

- Consults: GI, nutrition, home health, psychology (PTSD), perinatology/MFM
- Adjunctive care: hypnosis, acupuncture, homeopathy, osteopathic manipulation

## PATIENT/FAMILY EDUCATION

- Daily: HELP Score, ketostix
- Call if significant Δ in HELP Score
- Coping for psychosocial & debility
- ⊖ Red flag signs: hematemesis, rapid weight loss, Δ in breathing or gait or vision or mental status, fever, chills, chest pain/arrhythmia, somnolence, oliguria, fainting, severe pain

## POSTPARTUM SUPPORT

- Psych: Trauma/PPD support
- Nutrition: Thiamin + prenatal
- Evals: PT, thyroid, ND, GI prn nausea

## HG FACTS

- Genetic links to IGFBP7 & GDF15 & RYR2 (cyclic vomiting syndrome)
- Diagnosis: dehydration, poor nutrition, weight loss, debility
- Fetal loss rate: 34%
- Termination rate: 15%
- Maternal Complications: atrophy, esophageal tear/rupture, organ rupture/failure, deconditioning, pneumomediastinum, gall bladder dysfunction, fatty liver, neurological disease, retinal hemorrhage, GI ulcer or infection, premature labor & delivery, PTSD, rhabdomyolysis, severe dental damage
- Child Outcome Risks: IUGR, sensory & emotional & neurodevelopmental & behavioral disorders, vitamin K deficient embryopathy, stillbirth

## Kimber's RULE OF 2'S

Wean medications for HG:



Over 2+ weeks

+



After 2+ weeks  
without symptoms

+



In 2nd trimester  
or later