

# PREGNANCY RECOMMENDATIONS FOR POST-OPERATIVE BARIATRIC PATIENTS



PROVIDED BY CENTER FOR WEIGHT REDUCTION



Goshen Physicians

# Instructions for Pregnant/ Breastfeeding Post-Operative Bariatric Patients

## PREGNANCY AFTER WEIGHT LOSS SURGERY

- Recommend delaying pregnancy at least 12-18 months after surgery
- If pregnancy early post-op, body may be in catabolic state w/ the major wt. loss. Inadequate protein/calories --> adverse effect on growth/development of fetus. Higher rate of miscarriage in early post-op group
- Best to use more than one means of contraception. Likely altered absorption of oral contraceptives after gastric bypass. Change in hormone levels --> normalized periods
- Careful in screening for gestational DM – can have dumping syndrome

## WEIGHT GAIN

- Weight goal to enable appropriate wt. gain for mother & fetus:
  - Gain 1-4# in first trimester and 0.5#/wk in the second and third trimester
- Using current BMI post-op:
  - BMI < 18.5 ----- 28-40# gain
  - BMI 18.5-24.9 ----- 25-35# gain
  - BMI >25-29.9 ----- 15-25# gain
  - BMI > 30 ----- 11-20# gain
- For adjustable gastric bands, recommended to remove all fluid from the band during the 1st trimester to help alleviate N/V

## NUTRITIONAL INTAKE

### In pts < 6 mo., post-op

- Increase cal/protein intake to prevent rapid wt. loss
- Minimum intake of 1200 cal/d
- If wt. loss > 2#/week, advance to 1500 cal/d
- If wt. loss > 2#/week occurs consistently, alternative nutrition sources must be considered
- Protein: Roux-en-Y (RNY), Sleeve Gastrectomy (SG)
  - Goal is 1.5 gm/kg IBW/d
- Protein: Adjustable Gastric Band
  - 20 gm more protein/d above maintenance level

### In patients > 6 mo., post-op

- Additional 340 cal/d in 2nd trimester, additional 450 cal/d in 3rd trimester.
- Protein: RNY, SG
  - Goal is 1.1gm/kg IBW/d or 20gm more/d, 60-80g/d
- Protein: Adjustable Gastric Band
  - 20 gm more protein/d above maintenance level
- Fluids goal: 64+ oz/d

### Vitamin/Minerals:

#### RNY

- Monitor the blood count, iron, ferritin and Vit D levels every trimester
- Can continue bariatric multivitamins or a prenatal vitamin w/ additional Vit B12 & calcium citrate supplements, and additional iron & folic acid as needed
- Iron: 40-65 mg/d or based on iron studies
- Vit B12: 500 mcg/d sublingual or 1000 mcg/mo Im
- Vit D3: 2000-6000 IU/d
- Thiamine: a baseline level is prudent
- Calcium: 1500-2000 mg/d (w/ Vit D3)
- Folic acid: supplement further if serum levels are low 4mg
- DHA: 300 mg/d or combination prenatal (DHA+prenatal)

### Adjustable Gastric Band

- Normal prenatal vitamin. Additional calcium citrate & Vit D3 as needed. Other additional supplementation based on low dietary intake or laboratory deficiency

### Laparoscopic Sleeve Gastrectomy

- Normal prenatal vitamin
- Additional calcium citrate 1000-1500 mg and Vit D3 as needed
- Iron 40-65 mg/d
- Vit D3: 2000-6000 IU/d
- Vit B12: 500 mcg/d sublingual or 1000 mcg/mo Im

## BREASTFEEDING

- Breastfeeding can assist with wt. loss post-partum. Follow same nutrition guidelines as during pregnancy to enable appropriate quantity & quality of milk production
- Calorie goal: 300-500 Cal/d above maintenance level

### Issues:

- **Vit B12** – if mom is deficient, baby becomes deficient
- **Vit D** – breastfed babies have a hard time getting enough D; obese moms & surgical wt. loss pts. can be low; babies influenced more by Vit D status of mother during pregnancy & by amount of sun exposure, as Vit D content of human milk is typically low
- **Thiamine** – a baseline level would be prudent
- **Iron** – Iron deficiency may occur in up to 50% of pts after RNY, esp. in women still menstruating. Amenorrhea from sustained lactation may be beneficial d/t decreased blood loss
- Iron from human milk is better absorbed than iron from formula
- **Water-soluble vitamins** – in human milk are greatly influenced by mother's diet. Avoid high doses of Vit B6 as production of prolactin may be inhibited
- **Fat** – lipid comprises 50% of breast milk calories & is highly variable. Breast milk contains ARA (arachidonic acid) & DHA (docosahexaenoic acid) – associated w/ improved cognition, growth & vision in children. Some experts recommend supplementation of ARA & DHA in pregnancy & lactation
- **Breast tissue changes** – if mom has had breast reduction, has extensive ptosis or asymmetrical breasts, these would be red flags for watching for adequate milk production
- **Obese women may have delayed lactogenesis** – this can be misinterpreted in the first week as an inability to breastfeed

## LAB VALUES FOR BREASTFEEDING PATIENTS AND INFANTS

- CBC, albumin, folate, Vit B12, calcium, phosphorus & 25-dehydroxy-Vit D should be tested during pregnancy & after birth to detect deficiencies & supplement accordingly
- Infants – evaluate for adequate growth, adequacy of Vit B12, calcium & folate levels throughout the duration of breastfeeding

## General Guidelines for Pregnancy/ Breastfeeding After Bariatric Surgery

### GENERAL GUIDELINES

- Eat small, frequent meals and snacks (at least 5-6 per day) in order to achieve calorie and protein goals
- Do not skip meals or planned snacks
- Eat a variety of foods from all food groups
- Do not eliminate or severely restrict carbohydrates
- Separate consumption of solids and liquids by at least 30 minutes to decrease early satiety and increase food tolerance
- A high protein, low carbohydrate liquid nutrition supplement may be helpful to meet nutrition goals (i.e. Unjury, IsoPure, etc.)
- Report any persistent vomiting after meals or other significant barriers to meeting the meal plan goals
- Weight goal: to enable appropriate weight gain for mother and fetus:
  - 1st trimester goal = +1-4#
  - 2nd trimester goal = +0.5#/wk
  - 3rd trimester goals = +0.5#/wk

# Lab Tests

## Post Operative Bariatric Patients

Roux-en-Y Gastric Bypass	Laparoscopic Sleeve Gastrectomy	Gastric Banding
<p>Labs during first year post op:</p> <ul style="list-style-type: none"> <li>• 3, 6 &amp; 12 months</li> </ul> <p>Labs after first year: Annually</p>	<p>Labs during first year post op:</p> <ul style="list-style-type: none"> <li>• 3 &amp; 12 months</li> </ul> <p>Labs after first year: Annually</p>	<p>Labs post op:</p> <ul style="list-style-type: none"> <li>• Labs performed only if pre-op labs are abnormal</li> </ul>
<p>Chemistry Test Panels:</p> <ul style="list-style-type: none"> <li>• Fasting (8 hours)</li> <li>• Comprehensive Metabolic</li> </ul> <p>Chemistry Routine Tests: Iron/TIBC Panel</p> <p>Chemistry Miscellaneous:</p> <ul style="list-style-type: none"> <li>• B12</li> <li>• Folate – Serum</li> <li>• B1</li> <li>• Vitamin D 25 Hydroxy</li> <li>• PTH</li> </ul> <p>Hematology:</p> <ul style="list-style-type: none"> <li>• CBC with Differential</li> </ul>	<p>Chemistry Test Panels:</p> <ul style="list-style-type: none"> <li>• Fasting (8 hours)</li> <li>• Comprehensive Metabolic</li> </ul> <p>Chemistry Routine Tests: Iron/TIBC Panel</p> <p>Chemistry Miscellaneous:</p> <ul style="list-style-type: none"> <li>• B12</li> <li>• Folate – Serum</li> <li>• B1</li> <li>• Vitamin D 25 Hydroxy</li> <li>• PTH</li> </ul> <p>Hematology:</p> <ul style="list-style-type: none"> <li>• CBC with Differential</li> </ul>	<p>Chemistry Test Panels:</p> <ul style="list-style-type: none"> <li>• Comprehensive Metabolic</li> </ul> <p>Hematology:</p> <ul style="list-style-type: none"> <li>• CBC with Differential</li> </ul>

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