



DIET INTERVENTION FOR GASTROPARESIS

INTRODUCTION

Gastroparesis means stomach (gastro) paralysis (paresis). Other terms used to describe this condition are: gastric stasis, gastropathy, slow stomach, sluggish stomach and diabetic enteropathy (in those patients who have diabetes mellitus). Under normal conditions, the stomach is a flexible sac that can stretch and shrink, mix and churn, and eventually empty food into the small intestine. The word gastroparesis is used when a patient's stomach empties too slowly. Everyone's stomach is unique, so the ability of the stomach to empty can vary from one patient to another. Some can still eat small amounts of regular foods; they just have to eat more often to get all their nutrients in. Others may have periods when all they can take in is liquids, and still others may have periods when they cannot take anything at all. Despite this most patients are able to swallow and empty their saliva (about 1 quart per day) and also empty the natural stomach juices they make (about 2-3 quarts per day). Symptoms can vary from week-to-week or even day-to-day.

The diet presented here is designed to give tips for diet modification. In addition, lots of suggestions are provided for foods and fluids to try when ideas run dry at home. I want to make it clear that the suggestions are based on my experience with patients and not science, as there are no studies available that demonstrate what foods are better tolerated than others by patients with gastroparesis. Furthermore, any calorie is a good calorie, especially in someone who has lost a lot of weight and is now facing the possibility of tube or intravenous feeding to provide nourishment. This may be a time when prior dietary restrictions are put on hold until basic nutritional needs can be met.

It is recommended that anyone with gastroparesis, but especially those with combined medical problems (such as diabetes or kidney disease), seek diet counseling by a registered dietitian to maximize nutritional benefits. To locate a registered dietitian near you, call the American Dietetic Association at 800-366-1655 or visit their website at www.eatright.org.

ESSENTIAL NUTRIENTS - KEEPING HEALTHY

Calories - A calorie is energy provided by food. You need calories (energy) every day for your body to work, just like putting gas in a car. If you need to gain weight, you need more calories. If you need to lose weight, you need fewer calories. Protein, carbohydrate, and fat are all different kinds of calories.

- **Protein** - To make and repair all tissues, we need some every day. Most people need about 60 grams of protein per day to meet their protein needs.
Examples: meats, fish, poultry, milk, egg, cheeses (see table 2)
- **Carbohydrate** - (starches and natural sugars) - The energy source and one of the easiest nutrients for our bodies to use. Get some at every meal or snack.
Examples: Toast, crackers, potatoes, rice, pasta
- **Fat** - Another energy source that also provides essential nutrients to our bodies. Extra fat can help you gain weight because it is the most concentrated source of calories.
Examples: butter, mayonnaise, margarine, vegetable oil

Water or fluids – We all need a certain amount of fluid every day to make sure we are well hydrated. You can get fluid from juice, milk, water, tea, coffee, soda, and other liquids. Even if you are vomiting a lot, you need to somehow take in fluids to stay hydrated. Vomiting may actually get worse, just from being dehydrated.

Vitamins and minerals – Found in all different kinds of foods and beverages and are essential to us all. Vitamins and minerals do not supply energy, so even if you take vitamins, you still need to eat foods for energy and other nutrients. If you have a lot of vomiting and have lost a lot of weight, your doctor or dietitian may recommend that you have certain vitamin or mineral levels checked with a simple blood test. If extra vitamins and/or minerals are needed, you may tolerate chewable or liquid forms better.

Specific Nutrients

Patients who have had a big weight loss are at risk for multiple nutrient deficiencies. During the repletion phase, a standard multiple vitamin and mineral supplement may prove beneficial. However, this should be done under the guidance of a physician and registered dietitian. The most common nutrient deficiencies seen in patients with gastroparesis are iron, vitamin B12 (cyanocobalamin), vitamin D and calcium. Patients with gastroparesis from partial stomach resections are at greatest risk for these types of nutrient deficiencies.

DIET THERAPY - THE BASICS

Volume

The larger the meal, the slower the stomach emptying will be. Filling up quickly after eating only a little bit (yet before nutrient needs are met) is a real problem for people who have gastroparesis. Calorie and protein needs, as well as vitamins, minerals and fluid requirements may not be met. So, patients will need to decrease the volume of their meals, but eat more often in order to meet their nutrient needs. Smaller, more frequent meals (six or more if necessary) may allow patients to better meet their needs.

Liquids versus Solids

If decreasing the meal size and increasing the number of “meals” does not work, the next step is to switch over to more liquid-type calories. Patients with gastroparesis will often tolerate liquids even if solids are not passing well. Liquids empty the stomach in a different way than solids do. Almost all liquids, even those that are high in calories, will empty from the stomach. Pureed foods are nearly liquid after mixing with saliva and stomach juices, and may be more easily tolerated than their solid food counterparts. A trial of mostly liquids, followed by the addition of thinned-down pureed foods, can be designed to meet a patient’s nutritional requirements. Patients, who experience increasing fullness as the day wears on may want to have their solid food for breakfast, switching to liquid meals as the day progresses.

Fiber

Fiber (found in many fruits, vegetables and grains) may act to slow stomach emptying in some patients and fill them up so quickly that nutrient needs may not be met. For patients who have had a bezoar (similar to a hair ball in a cat) in the past, a fiber restriction (including avoidance of over-the-counter fiber/bulking laxatives - see table 1) is worthwhile. Patients, who require jejunal tube feedings may tolerate fiber-containing formulas as the stomach is bypassed.

Table 1 High Fiber Foods/Medications and Those Associated with Bezoar Formation

High Fiber Foods
<ul style="list-style-type: none"> • Legumes/Dried Beans (refried beans, baked beans, black-eyed peas, lentils, black, pinto, northern, fava, navy, kidney, garbanzo beans, soy beans) • Bran /Whole Grain Cereals (such as bran cereals, Grape-Nuts®, shredded wheat type, granolas) • Nuts and Seeds (pumpkin seeds, soy nuts, chunky nut butters) • Fruits (blackberries, blueberries, raspberries, strawberries, oranges, kiwi) • Dried fruits (apricots, dates, figs, prunes, raisins) • Vegetables (green peas, broccoli) • Popcorn
Foods Associated with Bezoar Formation
Apples, Berries, Brussels sprouts, Coconuts, Corn, Figs, Green beans, Legumes, Oranges, Persimmons, Potato peels, Sauerkraut, Tomato skins
High Fiber Medications/Bulking Agents
Examples include: Acacia fiber; Benefiber®; Citrucel®; FiberChoice®; Fibercon®; Konsyl®; Metamucil®; Perdiem Fiber, or any psyllium product

Fat

Although fat may slow stomach emptying in some patients, many can consume fat especially in the form of liquids. Although many clinicians restrict fat, my experience is that fat in the liquid form (as part of beverages such as whole milk, milkshakes, nutritional supplements, etc.) can be well tolerated by many. To take fat out of the diet of a patient diet that is seriously malnourished is to remove a valuable source of calories. Unless a fat-containing food or fluid causes problems, fat should not be limited. It is often well tolerated, pleasurable, and it provides a great source of calories in a small amount.

Dental Health

Since gastroparesis impairs the stomach’s ability to mash food and break it down into smaller sizes in preparation for absorption, the chewing of food beforehand becomes even more important. In addition, repeated exposure to stomach acid from frequent vomiting may destroy tooth enamel. Make every effort to see your dentist regularly and take good care of your teeth.

Positioning

Patients may try sitting up after meals and maybe even go for a walk depending on symptoms.

Medications

There are quite a few medications that can delay stomach emptying –ask your doctor if any of the medications you are on could be slowing down your stomach emptying and making your symptoms worse.

GETTING STARTED

- Eat six or more small meals per day; avoid large meals.
- Avoid foods high in fat or too much fat added to foods (liquid fat in beverages is often tolerated).
- Eat nutritious foods first before filling up on “empty calories.”
- Chew foods well; solid food (such as meat) may be better tolerated if ground or pureed.
- High-fiber foods should be avoided because they may be more difficult for your stomach to empty or may cause bezoar formation. A bezoar is a mixture of food fibers that may get stuck in a stomach causing it to not empty well.
- Examples of high fiber foods: All bran, popcorn, broccoli, beans (see table 1).
- Sit up while eating and for 1 hour after finishing; consider taking a quiet walk after meals.
- If you have diabetes, keep your blood sugar well controlled. Let your doctor know if your blood sugar runs >200 on a regular basis.

TIPS FOR MAINTAINING YOUR DIET

- Solid food is more work for the stomach to empty than liquids. On days when symptoms are worse - try taking just liquids to let the stomach rest. Any food may be used if it is liquefied, thinned, or blenderized and strained.
- Check your weight twice a week. If weight is decreasing, increase the amount of liquid supplements or caloric beverages consumed like milkshakes, popsicles, gelatin, etc. If you lose more than 10 pounds unintentionally, let your doctor know.
- At meals take pureed foods and liquid supplements before coffee, tea or soda.

TRY BLENDERIZED FOOD

Any food can be blenderized, but solid foods will need to be thinned with some type of liquid.

- Meats, fish, poultry and ham: Blend with broths, water, milk, vegetable or V-8 juice, tomato sauce, gravies.
- Vegetables: Blend with water, tomato juice, milk, soy milk, broths, strained baby vegetables.
- Starches: potatoes, pasta: Blend with soups, broth, milk, water, gravies; add strained baby meats, etc to add protein if needed. Consider using hot cereals such as cream of wheat or rice, grits, etc as your “starch” at lunch and dinner.
- Fruits: Blend with their own juices, other fruit juices, water, strained baby fruits.
- Hot cereals: Make with caloric beverage such as whole milk, soy or rice milk, juice, liquid nutritional supplements, etc., instead of water. Add sugars, honey, molasses, syrups, or other flavorings, butter or margarine for extra calories. Use whole milk or high fat yogurt with dry cereals.
- Mixed dishes: Lasagna, macaroni and cheese, spaghetti, chili, stews, hearty soups, chop suey – add adequate liquid of your choice, blend well and strain.

If the blenderized item comes out “lumpy”, you can strain it through a fine metal kitchen strainer (available at kitchen and other retail stores) or cheesecloth (a fine material available at most fabric stores).

If you do not have a blender, strained baby foods will work and can be thinned down as needed with milk, soy or rice milk, water, broth, etc.

Always clean the blender well. Any food left on the blender could cause food poisoning.

GETTING YOUR CALORIES

When getting enough calories is a daily struggle...

- High calorie drinks are better than water (provides calories AND fluid)--use peach, pear or papaya nectar, cranberry juice, orange juice, Hawaiian Punch®, Hi C®, lemonade, Kool-Aid®.
- Fortify milk by adding dry milk powder – 1-cup powder to 1-quart milk.
- Use whole milk or evaporated milk (if tolerated) instead of skim or 2% for drinking and preparing “cream type” soups, custards, puddings, and milkshakes.
- Add instant breakfast, protein powder, dry milk powder, or other flavored powders or syrups to whole milk or even some juices.
- Make custards and puddings with eggs or egg substitutes (such as Eggbeaters®).
- Try adding ice cream, sherbets, sorbets to ready-made supplements liquid nutritional supplements such as Nutra-shakes®, Ensure® or Boost® or others (see table 5).
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Table 2: Examples of Fat Free Protein Sources*

Product	Serving Size	Protein (g)
Egg Beaters®	¼ c	6
Better n'Eggs®	¼ c	5
Egg whites, separated, cooked	2	7
Powdered egg whites	1 tablespoon	11.5
Egg white (Bob's Red Mill®)	2 teaspoon	3
Just Whites®(Deb EL™)	2 teaspoon	3
Fat free luncheon meat	1 oz	6
Fat free milk	8 oz	8
Non-fat dry milk powder	3 tablespoon	10
Non-fat cheese	1 oz	8
Evaporated skim milk	½ c	9
Non-fat cottage cheese	½ c	13
Non-fat yogurt (plain)	8 oz	12
High protein broth (Bernard® 800-323-3663)	1 cup	10
High protein gelatin (Bernard® 800-323-3663)	½ cup	12
High protein egg whites (Bernard® 800-323-3663)	1 tablespoon	5
UNJURY® Unflavored Whey Protein (800-517-5111)	1 scoop	20
Pro-Stat® (Medical Nutrition USA, Inc. 1-800-221-0308)	2 tablespoons	15
Beneprotein® (Nestle 888-240-2713)	1 scoop	6

*Carbohydrate calories may be present in some of these sources

Table 3: Options while on a Liquid Diet (Clear Liquids)*

Clear Liquids
All teas and coffees
Clear juices such as: apple, cranberry, grape
Fruit-flavored drinks
Carbonated beverages/soda
Gatorade® (regular or G2 Gatorade®)
Broth, bouillon, consume'
Plain, flavored gelatins
Popsicles
Sorbet
Clear liquid type supplements (see table 5):
<ul style="list-style-type: none"> • Enlive® (Abbott®) • Resource® Breeze (Nestle®) • NUTRA/Shake® Fruit Plus (Nutra/Balance®) • NUTRA/Shake® Fruit Plus Free (Nutra/Balance®)

*Note: Sometimes clear liquids are tolerated better if small amounts of plain rice, potatoes, Saltines, etc. are taken with them.

Table 4: Options while on a Liquid Diet (Full Liquids)

Full Liquids
All juices (nectars, fruit juices of any kind)
Tomato or V-8® juice
Milks: white milk, chocolate milk, buttermilk, Lactaid milk, soy milk, or rice milk
Carnation® Instant Breakfast™ (or equivalent of powder or milk)
Ovaltine®
Nesquik®
Nesquik® No Sugar Added
Flavored syrups such as strawberry
Eggnog
Milkshakes*
All tea and coffee drinks
<ul style="list-style-type: none"> • Add whole milk, cream or flavored creamers • Coffee Frappuccino® Light Blended Beverage
Smoothies*
Hot or cold cocoa
Hot or cold cocoa
Kefir (liquid yogurts), Go-gurts®, etc.
Creamy type yogurt (vanilla, lemon, key lime, etc.)
Puddings or Custard
Smooth ice cream (no nuts)
Hot cereal (low in fiber) such as: grits, cream of wheat, cream of rice or farina
Strained cream soups*
Thinned down strained vegetables, fruits, meats (such as strained baby foods)
Also allowed:
Butter / margarine Sugar Hard candy Honey Syrups
Can also add to broths or cream soups to increase nutritional value

*See recipes in Table 6

Table 5: Commercial Nutritional Supplements

Product	Company	Website/Phone*
Ensure® or Ensure® Plus Enlive®	Abbott®	www.abbottnutrition.com 800-986-8502
Resource® Shake Resource® Plus Shake Resource® Breeze Boost® or Boost® Plus Benecalorie®	Nestle®	www.nestleclinicalnutrition.com 1-800-422-2752
Nutra/SHAKE® Supreme Nutra/SHAKE® Sugar Free Nutra/SHAKE® Fruit Plus Nutra/SHAKE® Fruit Plus Free	Nutra/Balance ® Products	www.nutra-balance-products.com 800-654-3691
Scandishakes®	Axcan Pharma	store.axcanpharma.com 800-950-8085
Slim Fast® Shakes	Slim Fast®	www.slim- fast.com/products/shake
Milk Shake Plus	Bernard®	www.bernardfoods.com 800-323-3663

*Some products are also available through retail pharmacies or grocery stores (in store or online)

Note: Many pharmacy and food chains have their own brands of liquid supplements, examples include:

- Wal-Mart® = Equate® Nutritional Shake & Equate® Nutritional Shake Plus
- Kroger® = Fortify® & Fortify® Plus
- CVS® Pharmacy = Liquid Nutrition & Liquid Nutrition Plus
- Giant® = CareOne® Nutritional Drink and CareOne® Nutritional Drink Plus
- Food Lion® = NutraFit® & NutraFit® Plus

Table 6: Recipes For Soups, Smoothies, Fruit Blends, Shakes, and Fruit Drinks

The following recipes are only suggestions for liquid calories at a time when it may be difficult of think of ideas...

- Fortified milk can be substituted to increase protein if needed.
 To make fortified, high protein milk:
 1 quart whole milk
 1 cup nonfat instant dry milk
 Pour liquid milk into deep bowl.
 Add dry milk and beat slowly with beater until dry milk is dissolved
 Refrigerate and serve cold.
- Soy or rice milks can be substituted for milk in any recipe.
- Flavor extracts such as vanilla, almond, coffee, etc can be added for interest.
- Other flavorings such as dry gelatin (e.g., Jell-O®) or pudding mixes, syrups, etc. can be added for additional flavors or extra calories.
- Ice/ ice chips can always be blended in if desired.
- When using canned fruits for recipes, for additional calories use those in heavy syrup.
- Frozen yogurts, ice creams, sorbets, sherbets, soy and rice products can be substituted in any recipe.
- Sugar free ice creams, yogurts and gelatins, etc., can be substituted as needed for regular ones.
- For extra flavor, texture and calories, add a frozen banana (peel ripe bananas and place in a plastic freezer bag in the freezer until ready to use).

SOUPS	
<p>Super Soup 10oz can of any cream soup 4 oz heavy cream 6 oz whole milk 4 Tbsp non-fat dry milk powder Strain soup before serving.</p> <p>Other soup ideas include: Pacific™ Natural Foods creamy soups (tomato, butternut squash, etc.) or other ready-made cream soups</p>	<p>Cream Soup Blend Prepare any commercial, concentrated cream soup with whole, 2% or skim milk as tolerated. Strain any food pieces with kitchen strainer.</p> <ul style="list-style-type: none"> • Add strained baby meats or poultry for additional protein. <p>Select ANY commercial soup as desired. Put in blender. Add fluid as per directions. Blend well and strain as needed through kitchen blender if not smooth.</p>

SMOOTHIES

****Tip for great smoothies with bananas: Peel very ripe bananas, put in quart size freezer storage bag and freeze until ready to use.**

Basic Smoothie

½ cup vanilla yogurt or other creamy smooth yogurt such as lemon, key lime, strawberry, etc.)
1 small ripe banana

Strawberry Yogurt Frappe

1 tablespoon strawberry syrup or other flavoring
½ cup vanilla yogurt
½ cup milk
¼ cup orange juice
Dash vanilla

Strawberry-Banana Frappe (not sweet)

1 cup milk (or substitute)
2 bananas
1 carton (8 oz.) strawberry yogurt
1 Tbsp lemon juice
Combine all ingredients in blender.

Peach Plus

½ Peach, canned
¼ cup vanilla yogurt
¼ cup Milk
Dash vanilla
Dash nutmeg

Kefir Smoothie

8 oz Kefir – any flavor
1 ripe banana
Mix in blender until smooth.

Tropical Smoothie

½ cup creamy fruit yogurt
½ banana
2 tablespoons orange juice

Fruity Yogurt Sipper

1 ripe large banana or, 2 medium peaches, peeled and pitted
1 ½ cups whole milk
1 cup vanilla yogurt
1 tablespoon powdered sugar
½ cup ice cubes
Cut fruit into chunks. Combine all ingredients except ice in a blender until smooth. Add ice, one cube at a time. Blend until smooth.

Key Lime Delight Shake

½ cup vanilla yogurt
6 oz key lime yogurt
1 ripe bananas
1/3 cup milk (or substitute)
Put all ingredients into a blender and blend until smooth.

Berry Good Smoothie

6 oz strawberry yogurt
6 oz raspberry yogurt
6 oz blueberry yogurt
½ cup milk
Mix in blender until smooth.

FRUIT BLENDS

Pear

½ cup canned pears
½ cup cottage cheese

Peach

½ cup canned peach
½ cup cottage cheese

Banana-Apple

½ small banana
½ cup cottage cheese
¼ cup apple juice

Strawberry Cheesecake Shake (not sweet)

6 to 7 strawberries
½ cup cold milk
½ cup cottage cheese
Honey to taste
Combine all ingredients in blender until smooth.

Combine these next 3 recipes in a blender until smooth. Chill until firm.

Option 1

¼ cup cottage cheese
¼ cup vanilla ice cream
½ cup prepared gelatin

Option 2

¼ cup flavored yogurt
¼ cup vanilla ice cream
½ cup prepared gelatin

Option 3

¼ cup ricotta or cottage cheese
¼ cup vanilla ice cream
½ cup blended fruit
½ cup prepared gelatin

SHAKE RECIPES

Super Milkshake

½ cup fortified milk
½ cup high fat ice cream
1 packet instant breakfast

The Super Shake

1 can Ensure® Plus / Boost® Plus or equivalent
1 cup milk
½ cup ice cream
Put all ingredients into a blender and blend until smooth.

High Protein/High Energy Shake

½ cup milk (or substitute)
1 package instant breakfast
¼ cup egg substitute
½ cup ice cream
Put all ingredients into a blender and blend until smooth.

Chocolate Peanut Butter Shake

1 can chocolate Ensure® or Boost® or store brand equivalent
2 tablespoons smooth peanut
½ cup vanilla ice cream

Juice Shake

¾ cup pineapple juice (or other juices)
¼ cup egg substitute (optional)
1-½ cups vanilla ice cream
Put all ingredients into a blender and blend.

High-Protein Shake

1 cup fortified milk
½ cup ice cream
½ teaspoon vanilla extract
2 tablespoons butterscotch, chocolate, or your favorite syrup or sauce
*For variety, add ½ cup banana or 1 tablespoon smooth peanut butter and 2 teaspoon sugar
Put all ingredients in a blender. Blend at low speed for 10 seconds.

Sherbet Drink

½ cup milk or fortified milk (see below for recipe)
½ cup sherbet or sorbet
Can substitute ½ cup for ½ cup milk: Osmolite®, Osmolite® HN
Nutren® 1.0, plain
Soy Milk
Optional: Add ½ cup vanilla ice cream for "Dreamsicle equivalent"

High-Calorie Malt

½ cup whole milk
1 tablespoon malted milk powder
½ cup half and half
1 oz package instant breakfast, any flavor
2 cups ice cream, any flavor
2 tablespoons Ovaltine®
Mix all ingredients together in a blender.
Process until smooth.

Fruit and Cream

1 cup whole milk
1 cup vanilla ice cream
1 cup canned fruit in heavy syrup (peaches, apricots, pears)
Almond or vanilla extract to taste
Blend all ingredients and chill well before serving.

Orange Breakfast Nog

1 ½ cups buttermilk
2 tablespoons brown sugar
1 teaspoon vanilla extract
2-3 large ice cubes
1/3 cup of frozen orange juice concentrate
Combine all ingredients except ice in a blender until smooth. Add ice, one cube at a time. Blend until smooth and frothy.

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Butterscotch Shake

8 oz milk
1 tablespoon butterscotch powdered pudding mix or syrup
1 teaspoon brown sugar
1 vanilla instant breakfast
Blend all ingredients together.

Chocolate Mint Shake

1 cup whole milk
1 cup chocolate ice cream
½ teaspoon peppermint extract
½ packet of chocolate instant breakfast
Blend all ingredients together.

Coffee Buzz

2 tsp of instant coffee, mixed in 1 TBSP water
1 cup milk (or substitute)
1 pack of chocolate or vanilla instant breakfast

Cocoa Supreme

1 envelope chocolate instant breakfast
8 oz milk
1 tsp chocolate syrup

Heat milk and add instant breakfast and syrup. Stir well to blend. Top with marshmallows.

Chocolate Crème de Menthe Shake

1 cup whole milk
1 cup chocolate ice cream
1 teaspoon crème de menthe
½ packet of chocolate instant breakfast
Blend all ingredients together.
NOTE: Contains alcohol.

Nana-Peanut Shake

½ cup milk (or substitute)
1 banana
2½ TB peanut butter
1 cup vanilla ice cream

Place milk in blender container. Add banana, peanut butter and ice cream. Cover; blend on high for one minute or until thick and smooth.

Creamsicle Breakfast Shake

¾ cup vanilla or plain yogurt
¾ cup orange juice
1 pack vanilla instant breakfast

Blend all ingredients together in blender.

FRUIT DRINKS

Unless otherwise specified, mix all ingredients together in a blender.

Bucky Badger Punch

2 cups cranberry juice cocktail
1/2 cup orange juice
1/2 cup grapefruit juice
1 cup 7-UP® or club soda
Combine the 3 juices in a pitcher. Add 7-UP® or club soda when ready to serve.

High Protein Fruit Drink

8 ounce Enlive® or Resource Breeze®
1/2 cup sherbet
6 oz gingerale

Sherbet Punch

1/2 cup sherbet
6 oz gingerale

BREAKFAST SHAKE

6 oz. can frozen concentrated orange juice
1/4 cup cold water
1 cup ice cubes
1 carton (8 oz.) plain yogurt

Combine all ingredients except ice cubes in blender, blend until frothy. With mixture still running, drop in ice cubes one at a time.

Slushy Punch

1 cup sugar
2 ripe medium bananas, cut up
3 cups unsweetened pineapple juice
2 tablespoons lime juice
1, 6 oz can frozen orange juice concentrate
1, 1 liter bottle carbonated water or lemon-lime beverage, chilled
Combine carbonated water and sugar until dissolved. In a blender, combine bananas and juices. Blend until smooth. Add to sugar mixture. Pour in carbonated water.

FROZEN FRUIT SLUSH

6 oz can frozen fruit juice
4 Tbsp sugar
3 cups crushed ice

Combine all ingredients in blender and mix until slushy.

Table 7 Foods Suggestions for Patients with Gastroparesis

STARCHES			
Breads White bread (including French/Italian) Bagels (plain or egg) English muffin Plain roll Pita bread Tortilla (flour, corn) Pancake Waffle	Cereals Quick oats (plain) Grits Cream of Wheat Cream of Rice Puffed wheat and rice cereals such as: (Cheerios®, Sugar Pops®, Kix®, Rice Krispies®, Fruit Loops®, Special K®, Cocoa Crispies®, cornflakes, cocoa puffs)	Grains/Potatoes Rice (plain) - any Pasta, macaroni (plain) Bulgur wheat Barley Potatoes (no skin, plain)--all kinds sweet, yams, etc. French fries (baked)	Crackers Arrowroot Breadsticks Matzoh Melba toast Oyster Pretzels Saltines Soda Zwieback
MEATS – GROUND OR PUREED			
Beef Baby beef Chipped beef Flank steak Tenderloin Plate skirt steak Round (bottom or top) Rump Veal Leg Loin Rib Shank Shoulder	Pork Lean pork Tenderloin Pork chops 97% fat-free ham Poultry (skinless) Chicken Turkey (all) Wild Game Venison Rabbit Squirrel Pheasant (no skin)	Fish/Shellfish (fresh or frozen, plain, no breading) Crab Lobster Shrimp Clams Scallops Oysters Tuna (in water)	Cheese Cottage cheese Grated Parmesan Other Eggs (no creamed or fried), egg white, egg substitute Tofu Strained baby meats (all)
VEGETABLES (Cooked, and if necessary, blenderized/strained)			
Beets Tomato sauce	Tomato juice Tomato paste or puree	Carrots Strained baby vegetables	Mushrooms Vegetable juice
FRUITS AND JUICES (Cooked and, if necessary, blenderized/strained)			
Fruits Applesauce Banana Peaches (canned) Pears (canned) Strained baby fruits (all)	Juices (all) Apple cider Cranberry (sweetened) Cranberry (low calorie) Nectars (apricot, peach, Pear) Orange	Orange-grapefruit Pineapple-orange Papaya Pineapple Mango Apple Grape Grapefruit Prune	
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MILK PRODUCTS (if tolerated)	OTHER CARBOHYDRATES	SOUPS	FAT (if tolerated)
Buttermilk Yogurt (frozen) Evaporated milk Smooth yogurts (without fruit pieces) Milk powder Milk – any as tolerated	Angel food cake Animal crackers Custard/pudding Gelatin/ Jell-O® Ginger snaps Graham crackers Popsicles Plain sherbet Vanilla wafers	Broth Bouillon Strained creamed soups (with milk or water)	Cream cheese Mayonnaise Margarine Butter Vegetable oils Smooth peanut butter – small amounts
BEVERAGES	SEASONINGS/GRAVIES	SWEETS	
Hot cocoa (made with water or milk) Kool-Aid® Lemonade Tang® and similar powdered products Gatorade® or Powerade ® Soft drinks Coffee Tea	Cranberry sauce (smooth) Fat-free gravies Molly McButter®, Butter Buds® Mustard Ketchup Vegetable oil spray Soy sauce Teriyaki sauce Tabasco® sauce Vanilla and other extracts Vinegar	Gum Gum drops Hard candy Jelly beans Lemon drops Rolled candy (such as Lifesavers®) Marshmallows Seedless jams and jellies	
The following foods have been associated with bezoar formation (mixture of food residues that can accumulate in a stomach) formation--avoid if you have had a bezoar.			
Apples Berries Coconuts	Figs Oranges Persimmons	Brussels sprouts Green beans Legumes	Potato peels Sauerkraut

Table 8: Sample Semi-Liquid Meal Pattern

BREAKFAST

Citrus Juice or other beverage containing vitamin C
Thinned Cooked Cereal
Liquid Supplement or Milkshake (see suggestions above)
Milk
Coffee or Tea
Cream, Sugar

LUNCH AND DINNER

Thinned Soup
Thinned or Puréed Meat or Substitute
Thinned Potato or Substitute
Thinned or Puréed Vegetable
Thinned Dessert or Puréed Fruit
Liquid Supplement or Milkshake (see suggestions above)
Milk
Coffee or Tea
Cream, Sugar
Salt and Pepper

SNACK: MID-MORNING, AFTERNOON AND BEDTIME

Milk or Fruit Juice
Liquid Supplement or Milkshake (see suggestions above)

ADDITIONAL RESOURCES

- Gastroparesis & Dysmotilities Association - <http://www.digestivedistress.com>
- American Motility Society - www.motilitysociety.org
- University of Virginia Health System, Digestive Health Center of Excellence
www.ginutrition.virginia.edu
Go to: Nutrition Articles in Practical Gastroenterology
Scroll down to August 2005 article

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