



Session 14: More Volume, Fewer Calories

Thus far in GLB, we have covered a number of nutrition topics that help you to balance your eating for healthy lifestyle success. Today we want to help you learn ways to feel fuller on fewer calories and how to choose foods that keep hunger in check.

Barbara Rolls, Ph.D., who holds the endowed Guthrie Chair of Nutrition at Penn State University, is the author of a popular book entitled, “Volumetrics: Feel Full on Fewer Calories” (HarperCollins Publishers, 2000). The information in this session is based on Dr. Rolls’ research.

All foods provide a certain number of calories (energy) for a specific amount (volume) of food. This concept is called energy density.

- High-density foods provide a lot of calories in a small portion (volume) of food. Examples: crackers, chips, cookies, chocolate/candies, nuts, butter
- Low-density foods provide few calories per portion (volume) of food. Examples: non-starchy vegetables, nonfat milk, soup broth

For example, 1 cup of raw spinach (low-density) provides 7 calories but 1 cup of premium ice cream (high-density) provides 500 calories. They have the same amount or volume of food, but very different calories!

The basic idea of “Volumetrics” is to add volume to your meals by:

1. reducing fat
2. adding fiber
3. adding water
4. adding fruits and vegetables

By increasing the volume of food, you will consume fewer calories, enjoy a satisfying portion of food, and keep hunger in check.



How to Increase Volume in Your Meals

Add water to the dishes you cook

- Make soup, stews and casseroles
- Start meals with broth-based, low-fat soups
- Dilute fruit juice with water or soda water ($\frac{1}{2}$ and $\frac{1}{2}$)

Add fruit to increase water and fiber

- Choose whole fruits, fruits canned in water or juice, and frozen fruits
- Start your meal off with fruit. Half of a fresh grapefruit could be an appetizer
- Add fruit to your favorite yogurt
- Add strawberries, pears, or mandarin oranges to lettuce salads
- Add mango or fruit cocktail to rice
- Keep frozen fruit in your freezer; blend with yogurt for a great smoothie
- Add fruit to your breakfast cereal as a way to sweeten it
- Substitute applesauce/pureed prunes in baked goods and reduce the amount of oil

Add vegetables to increase water and fiber

- Start your meals with a salad, raw vegetables, or a clear broth soup that has lots of vegetables
- Experiment with new vegetables. Try some “new” kinds of greens in your salad
- Try drinking vegetable juice such as V8 or tomato juice
- For a snack, choose raw vegetables with a low-fat or non-fat dip
- Add vegetables to your cooked dishes
- Have fresh, frozen or canned vegetables on hand to add to casseroles or mixed meat dishes. (Add spinach, diced carrots, and extra onions to chili. Add broccoli to baked ziti. Add plenty of vegetables to jars of tomato sauce)

Salads are filling

- Vegetable Salads
 - Any combination of vegetables makes a great salad
 - For more fiber and a tasty crunch, add 2 Tablespoons of nuts to your salad
 - Use lower calorie dressings
 - Add chicken, canned tuna, or beans (black beans, kidney beans, chickpeas, soybeans) to a salad to make it a more complete and filling meal

- Grain and Bean Salads
 - Add vegetables to add bulk to a brown rice, couscous, or barley salad
 - Combine three different beans with vegetables, herbs, and a vinegar-based dressing

Soups are satisfying

- Numerous research studies report that soup helps people eat less
- Broth-based soups have been shown to help people lose weight and keep weight off
- Soup takes a long time to eat, fills up your stomach, and takes time to empty from your stomach which increases satiety
- Choose soups with
 - defatted broth or stock (instead of cream-based soups)
 - generous amounts of vegetables
 - chicken, turkey, lean beef, beans, lentils, barley, or tofu
- Aim for broth-based soups with about 100 calories per cup
- Enhance prepared soups by adding extra vegetables or beans

Legumes are Versatile

- Add beans (black, kidney, chickpea, soybean) or lentils to soups, stews, chili, salads, pasta, rice, casseroles, pizza and pasta sauces
- Legumes also make great dips. Spread hummus on sandwiches or use it as a dip

Nuts, Seeds, and Dried Fruits are Nature's Bounty

- They are good sources of fiber, but contain little water
- Caution: They are higher in calories and fat so eat them in moderation.
- Add them to cereal and milk, salads, and vegetables

Use Whole Grains

- The USDA MyPlate recommends that at least half of the grains eaten each day should be whole grains
- It is important to *substitute* whole grain products for refined grain products, rather than *adding* whole grain products, in order to stay within your calorie and fat goals



Main Dish Soups

Light and Fresh Vegetable Soup

2 teaspoons olive oil
4 cloves garlic, minced
5 cups low-fat or fat-free chicken broth
2 sprigs thyme
½ cup frozen green peas, thawed
1 cup thinly sliced red bell pepper
1 cup cut fresh asparagus--(1 ½ -inch long pieces)
1¾ cups sliced Swiss chard or spinach
1½ cups cooked penne pasta

Directions:

- Heat olive oil in large saucepan over medium heat. Add garlic and sauté 1 minute.
- Add the broth and thyme, and bring to a boil. Cover, reduce heat, and simmer 10 minutes.
- Add Swiss chard, bell pepper, and peas; cover and simmer 5 minutes.
- Add the asparagus, cover and simmer 2-4 minutes or until the asparagus is just tender.
- Stir in the pasta, and cook 1 minute.

Servings = 4 servings of 2 cups each

One serving (2 cups) = 150 calories, 3 grams fat

Source: 'Volumetrics : Feel Full on Fewer Calories' by Barbara Rolls, PhD. (HarperCollins Publishers, 2000)

Lentil Soup

1 pound lentils, rinsed and drained	3 carrots, peeled and chopped
12 cups water	2 cloves garlic, minced
6 chicken bouillon cubes	8 ounce can tomato sauce
2 onions, chopped (1 cup)	2 bay leaves
3 celery ribs, chopped	1 teaspoon oregano
½ cup red wine vinegar	

Directions:

- Place all ingredients EXCEPT red wine vinegar in large soup pot.
- Bring to a boil, cover, and let simmer several hours.
- About 30 minutes before serving, add red wine vinegar.

Yield: approximately 12 cups

Serving: 1 cup = 155 calories, .5 fat grams

Split Pea Soup

1 pound bag of green split peas	12 cups water
1 cup dry baby lima beans	4 chicken bouillon cubes
6 carrots, diced	4 onions, chopped (2 cups)
½ teaspoon dried dill weed	¼ teaspoon garlic powder

Directions:

- Rinse split peas and baby limas in hot water and drain.
- Place all ingredients in soup pot. Bring to boil. Let simmer several hours.

Yield: approximately 12 cups

Serving: 1 cup = 211 calories, 1 gram fat

White Bean Chili

8 cups water
4 chicken bouillon cubes
3 cloves garlic, minced
pinch of ground cloves
1 pound navy beans - soak 24 hours, rinse and drain
6 onions, chopped (approximately 3 cups)
2-3 boneless, skinless split chicken breasts (optional)
*Pepper Jack cheese

1 teaspoon oregano
2 teaspoons ground cumin
1 teaspoon cayenne pepper
1 pint mild salsa

Directions:

- Place in large soup pot: beans, water, bouillon cubes, chicken, garlic, and onion. Bring to a boil & let simmer several hours or at least until beans are tender.
- Remove chicken, shred, & return to pot.
- Add spices and let simmer several hours.
- 30 - 60 minutes before serving add salsa.
- Garnish each bowl with shredded hot pepper cheese. *Pepper Jack Veggie Slices could also be used.

Serving: 1 cup = 150 calories, 2 grams fat



What's in Your Bowl? High Fiber Cereals

The 2005 Dietary Reference Intake (DRI) for fiber is 25 grams per day for women and 38 grams per day for men up to age 50. After age 50, women should include 21 grams per day, men 30 grams daily.

Including a high fiber breakfast cereal is an easy way to boost your fiber intake. Add nutrients by including low-fat or fat-free milk and a serving of fruit.

The following cereals are healthy choices because they contain:

1. at least 10 grams of fiber
2. no more than 200 calories
3. and no more than 10 grams of sugar per serving

Brand Name**	Serving Size	Calories	Fat (grams)	Fiber (grams)	Sugar (grams)	Protein (grams)
Fiber One®	½ cup	60	1	14	0	2
Fiber One® Honey Clusters®	1 cup	160	1.5	13	6	3
Fiber One® Raisin Bran Clusters®	1 cup	170	1	11	14*	3
Kashi ®Go Lean®	1 cup	140	1	10	6	13
Kashi ® Good Friends®	1 cup	160	1.5	12	10	5
Kellogg's® All Bran Bran Buds®	1/3 cup	70	1	13	8	2
Kellogg's® All Bran Original®	½ cup	80	1	10	6	4
Compare with:						
Kellogg's® Special K®	1 cup	120	.5	<1	4	6
Kellogg's® Corn Flakes®	1 cup	100	0	1	2	2
Kellogg's® Rice Krispies®	1¼ cup	130	0	<1	4	2

* This item contains fruit, so is higher in grams of sugar. Labels do not separate added sugar from the natural sugar from fruit.

**Nutrition information from company websites, 2/2011

A Sneak Peak at What's Ahead (The Next Session)



To do:

The Basics:

- Keep track of your weight.
 - Weigh yourself at home daily or at least once a week at the same time of day.
 - Record your weight in the Keeping Track book.
- Keep track of what you eat and drink using the Keeping Track book.
- Keep track of your physical activity in the Keeping Track book.
- Be physically active for at least 150 minutes per week.

Challenge Yourself:

- Practice adding volume to your meals. Evaluate the impact on your calorie intake. Evaluate the impact on your degree of fullness.

Additional Notes:
