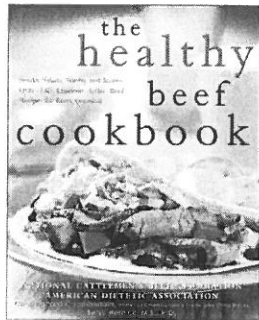


The latest research on heart health and lean beef presents a new way of thinking: lean beef can be part of a solution to one of America's greatest health challenges - eating for a healthy heart. A study published in the *American Journal of Clinical Nutrition* found that participants in the BOLD (Beef in an Optimal Lean Diet) study experienced a 10% decrease in LDL cholesterol from baseline when they ate lean beef daily as part of a heart-healthy diet and lifestyle containing less than 7% of calories from saturated fat.^{1*}

The BOLD clinical study substituted lean beef for white meat as part of an overall heart-healthy diet and found the improvements in LDL cholesterol seen on the beef-containing diets were just as effective as the gold standard heart-healthy diet (DASH, Dietary Approaches to Stop Hypertension).¹ The BOLD diet contained 4.0 oz. of lean beef and the BOLD-PLUS diet contained 5.4 oz. (weights before cooking) of lean beef daily with both diets providing less than 7% of calories from saturated fat. After five weeks, there were significant reductions in total and LDL cholesterol.¹ Many of the BOLD and BOLD-PLUS diet menu plans incorporated recipes from *The Healthy Beef Cookbook*.



The study used rigorously designed research—a Randomized Controlled Clinical Intervention Trial—to investigate the effects of cholesterol-lowering diets with varying amounts of lean beef. In this study, 36 participants (adults ages 30-65 with moderately elevated cholesterol) were randomly assigned to a treatment order and in a cross-over design, consumed a total of four diets (BOLD, BOLD-PLUS, DASH and Healthy American Diet (HAD) as control) for five weeks each.

The BOLD study is the latest addition to a body of evidence that supports including lean beef in a heart-healthy diet. To learn more about this study, please visit BeefNutrition.org.

Nutritional Breakdown of Study Diets

	HAD	DASH	BOLD	BOLD-PLUS
Calories	2,097 kcal	2,106 kcal	2,100 kcal	2,104 kcal
Protein (% of total calories)	17%	18%	19%	27%
Carbohydrate (% of total calories)	50%	55%	54%	45%
Fat (% of total calories)	33%	27%	28%	28%
Saturated Fat (% of total calories)	12%	6%	6%	6%
Monounsaturated Fat (% of total calories)	11%	9%	11%	12%
Polyunsaturated Fat (% of total calories)	7%	8%	7%	7%
Lean Beef (oz./day ^{**})	0.7	1.0	4.0	5.4

^{**}Weight before cooking

- Healthy American Diet (HAD):**
Control diet, included more refined grains, full-fat dairy products, oil and butter to reflect current American dietary habits.
- Dietary Approaches to Stop Hypertension (DASH):**
Considered the “gold standard” heart-healthy diet, this eating plan featured vegetables, fruits and low-fat dairy and limited red meat and sweets.
- Beef in an Optimal Lean Diet (BOLD):**
Similar to the DASH diet (rich in vegetables, fruits, whole grains, nuts and beans) and protein amount, but used lean beef (4 oz./day) as the primary protein source, whereas the DASH diet used primarily white meat and plant protein sources.
- Beef in an Optimal Lean Diet Plus (BOLD-PLUS):**
Similar to the BOLD diet, but with higher protein and lean beef intake (5.4 oz./day).

* Subjects that consumed the BOLD diet experienced a 10.1% decrease in LDL cholesterol compared to baseline. In comparison to the Healthy American Diet, subjects experienced a 4.7% decrease in LDL cholesterol on the BOLD diet.

Eating Lean Beef Daily Can Help Lower Cholesterol As Part of a Heart-Healthy Diet and Lifestyle

Lean beef is a perfect fit in a low saturated fat diet. By choosing lean beef, you can meet the 2010 Dietary Guidelines for Americans recommendations.² When included as part of a healthy diet, lean choices—such as Top Sirloin, Tenderloin, T-Bone steak and 93% lean or leaner Ground Beef—can reduce risk of heart disease. In fact, 18 of the top 25 most popular fresh meat cuts sold at retail are lean.³

A 3 oz. serving of lean beef contributes less than 10 percent of calories to a 2,000-calorie diet and it supplies more than 10 percent of the Daily Value (DV) for 10 essential nutrients. On average, a 3 oz. serving of lean beef (about the size of a deck of cards) contains about 150 calories and is an excellent source of six nutrients (protein, zinc, vitamin B₁₂, vitamin B₆, niacin and selenium) and a good source of four nutrients (phosphorous, choline, iron and riboflavin).

A Taste of BOLD

You can follow the same heart-healthy diet as the participants of the BOLD study by using the recipes from *The Healthy Beef Cookbook*, a collection of delicious, nutrient-rich recipes featuring America's favorite protein—beef.⁴

Lean beef is the perfect pairing—easily served with vegetables, grains and dairy—and improves taste and satisfaction and maximizes nutrients to keep your body healthy. Here is a one-day sample menu from the BOLD diet.

BOLD: 4.0 oz. lean beef per day For a BOLD-PLUS menu, increase lean beef to 5.4 oz. per day	
Breakfast	♥ Egg (1) with red pepper and onion (1 Tbsp. each) ♥ Low-fat cheddar (¼ cup) ♥ Whole wheat bagel (1 small) ♥ Margarine (2 tsp.)
Lunch	♥ Sirloin with Sugar Snap Pea & Pasta Salad with Gremolata Dressing (see recipe below) ♥ Apple (1 medium)
Dinner	♥ Beef, Mango and Barley Salad (1¼ cup salad with 3 oz. cooked beef) ♥ Dinner roll (1 small) ♥ Margarine (2 tsp.)
Snacks	♥ Nonfat yogurt (6 oz.) ♥ Low-fat granola (¼ cup) ♥ Almonds (1½ Tbsp.)

Nutrition Information: 1802 calories; 89 g protein; 248 g carbohydrate; 55 g fat (14 g saturated); 326 mg cholesterol; 1677 mg sodium; 31 g zinc

Sirloin with Sugar Snap Pea & Pasta Salad with Gremolata Dressing

Total Recipe Time: 60 min
Makes 4 servings

- 1 boneless beef Top Sirloin, cut ¾ inch thick (about 1lb)
- 2 cups fresh sugar snap peas
- 2 cups cooked gemelli or corkscrew pasta
- 1 cup grape or teardrop tomatoes, cut in halves
- 3 cloves garlic, minced
- 1 teaspoon black pepper
- Chopped fresh parsley (optional)

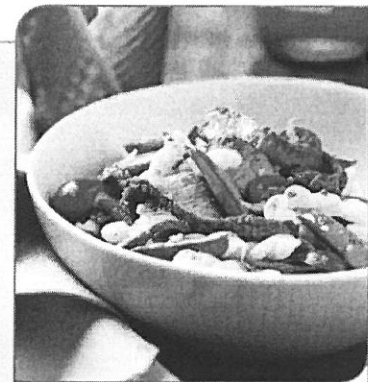
Gremolata Dressing:

- ¼ cup fresh lemon juice
- 2 tablespoons olive oil
- 2 tablespoons chopped fresh parsley
- 2 cloves garlic, minced
- 2 teaspoons freshly grated lemon peel
- ¼ teaspoon salt
- ⅛ teaspoon black pepper

1. Bring water to boil in large saucepan. Add peas; cook 2 to 3 minutes until crisp-tender. Drain; rinse under cold water. Combine peas, pasta and tomatoes in large bowl. Set aside.
2. Whisk dressing ingredients in small bowl until well blended. Toss 2 tablespoons dressing with pasta mixture. Set aside.
3. Combine 3 cloves minced garlic and 1 teaspoon pepper; press evenly onto beef steak. Place steak on rack in broiler pan so surface of beef is 2 to 3 inches from heat. Broil 9 to 12 minutes for medium rare (145°F) to medium (160°F) doneness, turning once.
4. Carve steak into thin slices; season with salt, as desired. Add steak slices and remaining dressing to pasta mixture; toss to coat evenly. Garnish with lemon peel and parsley, if desired.

Nutrition information per serving: 369 calories; 12g fat (3g saturated fat; 7g monounsaturated fat); 5mg cholesterol; 216mg sodium; 31g carbohydrate; 4.2g fiber; 32g protein; 1mg niacin; 0.7mg vitamin B₆; 1.4mcg vitamin B₁₂; 4.4mg iron; 46.5mcg selenium; 5.3mg zinc.

Recipe and photo as seen in *The Healthy Beef Cookbook*, published by John Wiley & Sons.



¹ Roussell MA, Hill AM, Gaugler TL, West SG, Vanden Heuvel JP, Alaupovic P, Gillies PJ, Kris-Etherton PM. Beef in an Optimal Lean Diet study: effects on lipids, lipoproteins, and apolipoproteins. *Am J Clin Nutr* 2012; 95(1). Internet. [http://www.ajcn.org/content/early/2011/12/13/ajcn.111.016261] (accessed 14 December 2011).

² United States Dept of Health and Human Services. United States Dept of Agriculture. *Dietary Guidelines for Americans*, 2010. January 31, 2011.

³ Freshlook Marketing Group, the leading U.S. source of grocery scanner data for meat and produce purchasing, 52 weeks ending 07/22/12.

⁴ IPSOS Public Affairs, 10-survey average, 2009-2010.