Getting Started

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Who are we?

The American Dairy Association Indiana, Inc. (ADAI) is a not-for-profit communication and nutrition education organization funded by and serving Indiana dairy farm families. We provide services to the public, health professionals, teachers, food service professionals, and media outlets.

Our organization is affiliated with the National Dairy Council. The National Dairy Council (NDC) has been a leader in dairy nutrition research, education, and communication since 1915. NDC provides timely, scientifically sound nutrition information to the media, physicians, dietitians, nurses, educators, and consumers concerned with fostering a healthier society. We work closely with Indiana schools to implement Fuel Up to Play 60, a student-led health and wellness initiative designed to encourage healthy eating and physical activity.

Why was this tool-kit developed?

“Cooking and preparing meals that fit into a bariatric diet and also taste great is difficult. Patients need to help finding new options which makes it easier to stay on target. After cooking class, patients are inspired and find new ways to prepare some of their favorite foods and are able to find new food options that they love.” - Sarah Muntel, RD, Bariatric Coordinator, Community Bariatrics North, Indianapolis, IN.

The goals after any restrictive weight loss surgery are:

- Maximize weight loss and absorption of nutrients
- Maintain adequate hydration
- Avoid adverse effects such as vomiting and dumping syndrome
- Initiate and continue behaviors integral to long-term weight maintenance (e.g., food choices, activity options)

These goals are especially important after Roux-en-Y gastric bypass (RYGB) because malabsorption of certain nutrients occurs after the surgery. Patients are at higher risk for deficiencies of folate, vitamin B-12, iron and calcium. Supplementation with vitamin D may also be important, as this nutrient can affect bone loss. Dairy and whey can help meet these vitamin and mineral deficiencies. (Source: American Academy of Nutrition and Dietetics.)

Bariatric dietitians face a challenge to make food more attractive, nutritious and easy to make for clients recovering from weight loss surgery. The food needs to be simple to prepare, high in protein and not create overwhelming leftovers. Keep in mind this clientele will be consuming small amounts of food at a setting. By combining the experience of a chef and dietitian, we developed recipes that were delicious, nutritious and easy to make and also easily converted to small portions to eliminate leftovers.
What is Whey?

Whey is the protein-packed liquid derived from cheese making. Most whey consumed is sweet whey which is obtained from processing with a minimal amount of lactose being converted to lactic acid.

Liquid whey is then processed into many commercial uses including dry whey containing whey concentrates and isolates. Dry whey contains about 13% protein.

The drying process of whey may influence different flavor profiles. Offering a variety of types of dry whey will help clients make selection they can tolerate and enjoy.

What are the Benefits of Dairy Protein?

When asked this question of Christopher J. Cifelli, Ph.D., director, Nutrition Research for Dairy Management Inc, Innovation Center for U.S. Dairy Chris says,

“Overall, meeting protein needs can be challenging in these [bariatric] patients so that is why they are suggesting whey. Whey is easily digestible, can be added to foods/beverages, and has levels branched chained amino acids needed to stimulate muscle protein synthesis.

Also, some patients will experience more lactose intolerance following bariatric surgery. So, lactose-free milk is a good recommendation to help people meet the nine essential nutrients. Also, cheese and high-protein yogurt are other good choices because they have the nutrients (most) found in milk, the protein needed for health, but are easier on the gut for those with lactose intolerance.”

Whey Protein, Specifically, has many benefits, especially for bariatric patients:

- It is a natural complete protein
- Is a convenient way of adding more high-quality protein to your diet
- Contains all of the essential amino acids (“building blocks”) the body needs
- Is one of the best sources of branched-chain amino acids (BCAA), especially leucine, which has been show to help increase muscle protein
- Helps increase protein synthesis, which can help our bodies function properly
- As part of a reduced-calorie, higher protein diet, may improve the quality of weight loss by helping people lose more fat and/or maintain more lean muscle.
Whey Information (cont.)

Whey Protein, Specifically, has many benefits, especially for bariatric patients:

- Can help people feel fuller longer than carbohydrates or fats.
- Consuming whey protein and performing regular resistance exercise can help build more lean muscle compared to resistance training alone, or resistance training combined with carbohydrate consumption.
- Consuming whey protein after exercise helps to build and repair muscle.
- Emerging research shows older Americans may be able to reduce the age-related decline of muscle mass by engaging in resistance training and consuming higher than the RDA for protein.
The National Dairy Council’s (NDC) Whey Protein Advisory Panel (WPAP) consists of nationally renowned nutrition and health experts who help educate health and fitness professionals about the benefits of whey protein for active adults.

Q: Can I eat whey protein if I’m lactose intolerant?

A: You may not need to rule out whey protein because of lactose sensitivities. Whey protein isolate contains very little lactose (0.1 g/20 g scoop), so it may be a great choice for you. The amount of lactose in whey protein concentrate is slightly higher (1.0 g/20 g scoop), but both ingredients contain much less lactose than a glass of milk (12 g/8 oz serving). Check the ingredients label to find out what type of whey protein is used in a specific product before buying. Susan Kundrat, MS, RD, CSSD, Assistant Clinical Professor, University of Wisconsin-Milwaukee

Q: Is whey protein as beneficial as other protein sources?

A: Protein quality varies. Animal-based proteins, including whey protein, are high-quality, complete protein sources that supply all of the essential amino acids the body needs to build and maintain muscle and to function properly. Protein found in most plant foods is considered “incomplete” protein because it lacks some of the essential amino acids the body needs each day. Therefore it is important to carefully combine your plant based proteins to get all the amino acids you need. Whey protein is a natural dairy protein, fast absorbing and easy to digest – try it with breakfast or as a pre- or post-workout snack. Doug Paddon-Jones, PhD, Professor, The University of Texas Medical Branch

Q: Does whey protein contain gluten?

A: Whey protein does not contain wheat protein or gluten. However, whey protein bars and beverages may contain added wheat-based or other cereal ingredients that contain gluten, so be sure to check the ingredients list. Chris Mohr, PhD, RD, CSSD, Owner, Mohr Results, Inc.

Q: How can I identify whey protein? Is there a government or other departmental seal?

A: There is no official seal on food products to identify if it contains whey. The best way to find foods with whey protein is to look for these ingredients on an ingredient label: whey protein, whey protein isolate, whey protein concentrate, and hydrolyzed whey protein. Susan Kundrat, MS, RD, CSSD, Assistant Clinical Professor, University of Wisconsin-Milwaukee
Q: How much whey should you use on a daily basis?

A: The Institute of Medicine recommends that 10 to 35 percent of the total calories we consume each day should come from protein. Although most people meet minimum protein requirements at the low end of this recommended range, many more would benefit from a moderately higher protein intake. Active individuals and older adults in particular should be encouraged to follow the MyPlate recommendations (20-25 percent of calories from protein) and include a moderate amount of high-quality protein with each meal. I would also encourage you to work with a dietician in your area to assess your daily protein intake and determine whether you are consuming too little or too much. Susan Kundrat, MS, RD, CSSD, Assistant Clinical Professor, University of Wisconsin-Milwaukee

Q: I usually eat a large amount of protein at dinner, but have heard that it is better to eat smaller amounts throughout the day. Is that true?

A: Recent studies suggest that spacing protein intake evenly throughout the day helps maximize muscle protein synthesis. Try eating 20-30 grams of high-quality protein, such as whey protein, at each meal rather than loading up at the end of the day. Adding a scoop of whey protein powder to a breakfast smoothie or sprinkling it in yogurt or oatmeal is an easy way to include protein at the beginning of the day. Increase mid-day protein consumption by eating a turkey and cheese sandwich or tuna salad made with Greek yogurt for lunch. Leslie Bonci, MPH, RD, CSSD, LDN, Director of Sports Nutrition, University of Pittsburgh Medical Center
What are the benefits of protein after surgery?

The body needs 20-30 grams of protein per meal. This is about the size of a 6 - 8 ounce cup of Greek yogurt. This visual gives you a starting point for your protein needs of the day.

Protein is the most important nutrient in the bariatric diet. Foods high in protein should be eaten first, in case you feel full and cannot finish your meal. Protein helps build muscle, maintains satiety, and repair tissue. After surgery it is important for the client to get the best type and suggested amount of protein daily to insure an adequate amount of amino acids to help build and repair the body. Dairy, meat and eggs are examples of the best sources of protein.

Post-surgery clients can consume whey protein mixed in liquids, milk and food to help boost the nutritional requirements. Consuming an adequate amount of protein is vital to help clients heal well, maintain a healthy recovery, and propel good maintenance in post recovery.

The Lactose Low-Down- Dairy is a rich source of Protein and if lactose is a concern:

<table>
<thead>
<tr>
<th>Product</th>
<th>Lactose (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole, 2%, 1%, skim Dairy Milk (1 cup)</td>
<td>12 g</td>
</tr>
<tr>
<td>LACTAID® Milk, Low-fat, lactose-free (1 cup)</td>
<td>0 g</td>
</tr>
<tr>
<td>Whey Protein Isolate (20 grams)</td>
<td>0.1 g</td>
</tr>
<tr>
<td>Cottage Cheese, low-fat, 2% milk-fat (1/2 cup)</td>
<td>3 g</td>
</tr>
<tr>
<td>Cheddar Cheese, sharp (1 oz.)</td>
<td>&lt;0.1 g</td>
</tr>
<tr>
<td>Swiss Cheese (1 oz.)</td>
<td>&lt;0.1 g</td>
</tr>
<tr>
<td>Mozzarella (1 oz.)</td>
<td>&lt;0.1 g</td>
</tr>
<tr>
<td>American Cheese- pasteurized, processed (1 oz)</td>
<td>1 g</td>
</tr>
<tr>
<td>Yogurt- low-fat (6 oz)</td>
<td>13 g</td>
</tr>
<tr>
<td>Yogurt, Greek-style</td>
<td>4 g</td>
</tr>
<tr>
<td>Ice Cream (1/2 cup)</td>
<td>4 g</td>
</tr>
</tbody>
</table>
Recipes
By Michelle Plummer, MS, RD, CD

Recipe Analysis through: http://myfoodrecord.com
Note: Recipes developed and modified by Michelle Plummer, MS, RD, CD
Smoothie with a Kick

Ingredients
1 cup tomato juice (low sodium)
2 tbsp. unflavored whey powder
¼ avocado, peeled and seeded
2 tbsp. onion, chopped
¼ tsp. tabasco
dash of celery salt
1 cup ice
Celery sticks, cucumber wedges, lemon wedges (for garnish)

Directions
Place juice, whey powder and spices in blender. Blend until smooth and thick. Pour over ice in a tall glass, garnish with desired vegetables and a dollop of Greek yogurt. Makes one 8 oz. serving.

Nutritional Analysis: 94 Cal; Fat 6g; Protein 12g; Fiber 3.4g; Chol 0g; Sodium 342 mg; Calcium 67mg
Strawberry Tomato Basil Smoothie

Ingredients
1 cup ripe tomatoes, cut up
½ cup frozen strawberries
1 cup strawberry yogurt
2 large basil leaves
½ cup ice

Directions
Place all ingredients into blender and blend until smooth and frothy. Makes two 8 oz. servings.
Note: to increase protein whey powder can be added to mixture.

Nutritional Analysis: 150 Cal; Fat 1gm; Protein 6gms; Fiber 2gms; Chol 0gms; Sodium 71mg; Calcium 146mg
Creamy Cauliflower and Potato Soup

Ingredients
- 1 tbsp. canola oil
- 3 cups cauliflower, chopped
- 1 cup cabbage, shredded
- 2 cups water
- 2 cups evaporated skim milk
- 1 tbsp. curry
- 1½ cups onion, diced
- 1/2 cup white potato, diced
- 2 packets chicken flavored whey protein
- 1 tsp. garlic, chopped
- 2 tbsp. parsley, chopped
- 1 tsp. lemon zest

Directions
Heat oil in large sauce pan over medium heat.
Combine water with whey protein and blend well.
Add onions and curry and cook 2-3 minutes; add cauliflower, potatoes, cabbage and broth.
Cover and cook for 8 minutes until tender.
Add milk and combine with emersion blender until smooth.
Heat until 155°F. Ladle in bowls garnished with lemon and garlic.
Makes ten 8 oz. servings.

Nutrition information per 8 ounce bowl:
*Nutritional Analysis: 120 Cal; Fat 2.5gm; Protein 16gms; Fiber 2gms; Chol 0gms; Sodium 210mg; Calcium 209mg*
Pumpkin Curry Soup

Ingredients
2 tbsp. butter
1 cup onion, chopped
2 cloves garlic, crushed
2 tsp. curry powder
½ tsp. salt
½ tsp. pepper
2 packets chicken flavored whey protein
16 ounces water
1 (15 ounce) can pumpkin puree
1 cup evaporated milk

Directions
Melt butter in large saucepan and sauté onion and garlic for 5 minutes.
Combine whey protein and 16 ounces of water together, blend well; set aside.
Stir in the curry, salt, and pepper into the onion mixture and cook for one minute.
Add the broth and pumpkin; whisk together well; bring to a simmer, and cook uncovered for 20 minutes.
Stir in evaporated skim milk just before serving. Heat to 165°F.
Makes six 1 cup servings

Nutritional Analysis: 182 Cal; Fat 8gm; Protein 9gms; Fiber 3.4gms; Chol 22gms; Sodium 186 mg; Calcium 191mg
Confetti Salad

Ingredients
1 passilla bell pepper, diced
1 orange bell pepper, diced
1/2 cup red onion, diced
12 sun dried tomatoes, cut into thin slices
¼ cup mozzarella, grated
1 red bell pepper, diced
1 yellow bell pepper, diced
2 ribs celery, thinly sliced
12 Kalamata olives, pitted, sliced

Dressing
2 tsp. olive oil
2 tbsp. lemon juice, fresh
1 tsp. Cajun spice blend

Directions
Combine vegetables in a large bowl.
In small bowl combine dressing mixture, pour over salad vegetables and toss.
The salad should look like confetti in the bowl and on the plate. Makes twelve ½ cup servings

Nutritional Information: Serving size: ½ cup
Nutritional Analysis: 31 Cal; Fat 1.1gm; Protein 1.5gms; Fiber 1.3gms; Chol 0gms; Sodium 342 mg; Calcium 32mg
Vegetable and Potato Salad

Instructions
1 lb. green beans, blanched and cut into 1” pieces
1/2 cup potato, cubed
1/2 cup sweet potato, cubed
1 cup carrot, diced
2 cups cauliflower florets
1 cup celery, diced
1/2 cup red onion, diced
1 cup lima beans
1/2 cup radishes, sliced
1 cup broccoli florets

Directions
Cut potatoes in cubes, boil for 6-8 minutes and drain.
In large bowl combine all other vegetables and place hot potatoes on top.
With potatoes still warm drizzle 1/2 cup dressing over mixture and combine well.
Pour remaining dressing over vegetables and toss gently not to avoid smashed potatoes.
Makes twelve 1 cup servings

Dressing:
2 cups Greek Yogurt
2 tbsp. Brown Sugar sweetener
1 tsp. Dill
1/2 cup potato, cubed
1 tbsp. Dijon Mustard
2 tsp. cumin, ground
Add salt and pepper to taste
Combine all dressing ingredients together and shake well. If dressing is too thick thin with milk.

Nutritional Analysis: 82 Cal; Fat .5gm; Protein 7.1gms; Fiber 3.5gms; Chol 4gms; Sodium 57 mg; Calcium 86mg
Sausage and Quinoa-Stuffed Zucchini

**Ingredients**
1 tbsp. extra-virgin olive oil  
1 portaballa mushroom, stem and scrape the gills, minced  
1/2 cup quinoa  
1/2 cup chopped tomatoes  
8 small zucchini  
1/8 tsp. salt  
1 cup water  

4 ounces sweet or hot turkey sausage, casings removed  
1/2 cup onion chopped  
1 pkt. chicken soup whey protein powder  
1 tbsp. marjoram, minced  
1/4 tsp. freshly ground pepper  
1/3 cup finely shredded Parmesan cheese

**Directions**

Heat oil in a large over medium-high heat. Add sausage and onion and cook, breaking the sausage into small pieces, until no longer pink, about 5-8 minutes.

Combine whey protein and water together in a cup; blend well and set aside.

In a small saucepan, cook quinoa and whey protein mixture (may need extra water), bring to a boil. Reduce heat to maintain a simmer, cover and once or twice, until the water is absorbed and the quinoa is tender, 15 to 20 minutes.

Remove from heat and stir in tomatoes and marjoram. Meanwhile, cut zucchini in half lengthwise. Cut a thin slice off the bottoms so each half of the zucchini so it sits flat.

Scoop out the pulp, leaving a 1/4-inch shell. (Add pulp to meat mixture) Place the zucchini in a microwave-safe dish and sprinkle with pepper. Cover and microwave on High until tender-crisp, 3 to 4 minutes. Uncover.

Position rack in upper third of oven; preheat broiler to high. Transfer zucchini to a broiler-safe pan (or pans). Fill with the quinoa mixture and sprinkle with cheese. Broil on the upper rack until the cheese is melted, about 2 minutes.

**Makes:** 8 servings  
**Serving Size:** 2 zucchini halves  
**Nutritional Analysis:** 238 Cal; Fat 11.3gm; Protein 23gms; Fiber 2.5gms; Chol 53gms; Sodium 589mg; Calcium 82mg
Oven-Fried Chicken

Ingredients
8 ounces boneless, skinless chicken thighs  1 cup buttermilk
1 tsp. oregano  ½ tsp. black pepper
1 tsp. onion powder  1/8 tsp. cayenne pepper
½ tsp. salt
Place all ingredients into a resealable bag and marinate for 1 hour.
Note: Chicken thighs can be cut into small strips (for “fingers”).

Breading for chicken
1/2 cup almond meal  1 packet chicken flavor soup whey protein
1 tsp. paprika  1 tsp. black pepper
¼ tsp. cayenne pepper, or to taste  ½ tsp. oregano
1 tsp. onion  1 egg

Directions:
Gather 3 plates for breading station
Place one place marinated chicken
Place two place beaten egg
Place three place breading and seasonings. Blend well.
to 425°F.
Line a baking sheet pan with parchment or foil, spray with nonstick spray.
Dip marinated chicken in beaten egg; dip into breading mixture, coat well.
Place chicken on rack to set for 10 minutes.
Continue process until all chicken is coated.
Place chicken on baking sheet pan, spray top of chicken tenders with nonstick spray.
Place on middle rack of oven and back for 20 minutes or until tenders reach 165°F. Internal temperature.
Remove from oven and serve immediately.

Nutritional Analysis: 255 Cal; Fat 12gm; Protein 28gms; Fiber 2.2gms; Chol 110gms; Sodium 434 mg; Calcium 96mg
### Mexican Quinoa Casserole

**Ingredients**
- 1 cup quinoa, rinsed well
- 2 teaspoons taco seasoning
- (or 1 tablespoon chili powder with ½ tsp cumin and cayenne)
- 2 cups frozen onion pepper mix
- 1 cup grated cheddar cheese, fine shred
- 1 tomato cut into wedges
- 2-2 1/2 cup water
- ½ cup brown rice
- 15 ounces black beans, rinsed, drained, with ½ tsp cumin and cayenne
- 2 tablespoons olive oil
- 1 cup corn
- 1 avocado, sliced, sprinkled with second ½ of lime

**Directions**
In sauce pan add quinoa, instant brown rice, water and 2 teaspoons taco seasoning. Bring to a boil. Reduce heat to medium, cover and cook 20 minutes. After grain mixture is prepared, add beans and corn, combine all ingredients well.
Place ingredients in an 8x8 inch baking dish.
Heat olive oil in pan over medium heat, add pepper/onion blend. Cook until browned and tender. About 10 minutes. Place on top of grain mixture.
Top with cheese and bake for 15 minutes. Remove from oven and top with sliced avocados and diced tomatoes.
To serve: plate and garnish with yogurt dressing. Serves twelve 1 cup servings

*Nutritional Analysis: 224 Cal; Fat 9gm; Protein 9gms; Fiber 6gms; Chol 67gms; Sodium 67 mg; Calcium 109mg*ca

**Ingredients for dressing**
- 6 oz. Greek yogurt
- 1 tbsp. taco spice mix
- 1/2 lime, zest and juice
- 2 tbsp. cilantro, minced
- pinch of salt
Combine all dressing ingredients together. Mix until well incorporated and set aside.
Cauliflower Pancakes

Ingredients
16 ounce bag of frozen cauliflower  2 eggs or ¼ cup egg whites
½ cup low fat cheddar cheese, fine grate  ½ cup ground almond meal
¼ tsp. cayenne or to taste  ¼ cup sliced green onions
Garnish with a dollop of Greek yogurt mixed with minced herbs

Directions

Place all ingredients into a food processor until well combined.
- Using a scoop make 16 balls and flatten them to ¼”
Heat griddle or electric skillet to 400°F; spray with non-stick spray
Place cakes on griddle and cook 2-3 minutes on first side until golden; flip and cook an additional 2-3 minutes. Remove and place on warm plate. Garnish with chopped veggies, salsa, Greek yogurt dip, or use a snack or croutons with salad.
Makes 24 patties

Nutritional Analysis: 29 Cal; Fat 1gm; Protein 2.1gms; Fiber; 1gms; Chol 0gms; Sodium 23 mg; Calcium 25mg
Lesson Plan
Getting Ready for the Demonstration
It is helpful for instructors to follow a lesson plan, it helps to ensure all materials are covered and in a logical pattern. Below are two examples depending on how much time the demonstration will last.

2-Hour

- Administer a pre/posttest- this will help the audience begin to get excited about the presentation (10 minutes)
- Demonstration Title and introduction of the presenter(s) (15 minutes)
  - What the demonstration will cover
  - Provide background on the topic
  - Cover the Who, What, When, How and Why of the topic
  - List objectives for the audience such as what they will observe, what they may be tasting etc.
  - Explain to the audience what to expect
  - Cooking then tasting after the dish is prepared OR all tasting is done later in the demonstration
  - Provide trinkets for questions that have been woven through the presentation
- Demonstration- (30-40 minutes)
- Post-test (10 minutes)
- Wrap up with Q&A (10 minutes)

1-Hour

- Introduction of the presenter(s) (15 minutes)
  - What the demonstration will cover
  - Provide background on the topic
  - Cover the Who, What, When, How
  - List Objectives for the audience such as what they will observe and what they may be tasting
- Demonstration- (30 minutes)
- Wrap up with Q&A
Food demonstrations are a good use of visuals. Providing food demonstrations in this instance helps the novice to the seasoned cook learn new techniques, a new way to look at foods or develop a new method for themselves.

Consider your timing of the event, your comfort level and the audience. Preparing more than two recipes along with answering questions and serving can be a challenge. Don’t be afraid to ask for help or bring along an assistant who can help serve or field questions.

Prepare foods that are in your comfort zone. If a recipe is difficult for you, it will difficult for your audience. You want to be entertaining, informative and able to have fun with the audience.

Keys to a good demonstration

1. Know your audience - ask questions ahead of time, what are they able to do, what do you want to be the take away from the evening?
2. Be prompt to your event, do not make the audience wait.
3. Have a clear message, and repeat it several times.
4. Be organized, follow proper sanitation guidelines.
5. Provide handouts, recipes and samples (always have an little extra something)
6. Have your table colorful, if you bring all ingredients prepared, then bring a few colorful whole pieces to make the table pretty.
7. Be sure to point out when you add herbs or spices how good that addition was and the aroma in the cooking area.
8. Do not be too technical, have stories, nutritional tidbits and a few audience questions to keep everyone engaged.
9. Bring a thermometer, be sure to temp the food prior to serving.
10. Let the audience taste the food, ask for feedback. Not all people may like your food, but they make still take some good information away from the demonstration.

Preparing for the demo (two days prior)

- Determine the recipes, make the necessary modifications if needed
- Figure out the ‘theme’ of the demonstration
- Practice cooking the recipe and while doing so talk aloud to an audience (just for practicing how to cook and talk and to get the timing down)
- Prepare the shopping list
- Prepare the equipment list (attached)
- Gather handouts, recipes, and giveaways (if applicable)
Demonstration Guidelines

Shopping for food (one day prior)
- Shopping one day before allows for time to prepare or shop for a missing item
- Prepare fruits, vegetables, meats that may need cut, sliced, cubed, marinated
- Place prepared items in resealable bags labeled with date, item and initialed
- Pack equipment and materials

Demo day
- Dress appropriately, you may need to bring a change of clothes
- Limit jewelry, nail polish and be able to pull your hair back if needed
- Rehearse demo once more just to be comfortable
- Wear an apron with logo (if possible) and closed toed shoes
- Pack a camera for photos to use on social media and newsletters later
- Pack all food items in cooler using more cooling product than needed (situations occur)
- Pack all items for moving and double check everything
- Arrive to demo at least 1 hour ahead of time (2 hours may be preferred if this is a new venue)
- Set up the table in the order of the times being prepared, setting out extra gloves, towels and knives as needed
- Greet each quest as they arrive to help make you more relaxed

During the Demo
- Introduce yourself, even if you have been introduced
- Tell the audience what to expect from this demo, if it your recipe let them know that
- Let the audience know it is OK to ask questions, this is for them!
- Tell the audience about the nutrition being provided from each food
- Talk about how to use Whey, you may have a story when you used it or let them know some things to note….when mixing use cool water to remove the lumps
- You can determine how to sample, all foods at once or as the food is completed
- Ask for comments, what would they add or omit, what flavors are most noticed
- Continue until all recipes are completed
- Ask questions and handout trinkets if applicable
- Leave time for Q&A
- Allow the audience to come up and see what is going on
- Thank the group and begin clean up
- Discard any food items for sanitation purposes
- Take coolers back to site and clean and sanitize for next event
- Record how the event went, how to make things better and number people in attendance
- Send thank you note to the person who invited you to do the demo is appropriate
## Equipment Checklist

Most food demonstrations will not require all of the following items

<table>
<thead>
<tr>
<th>Item</th>
<th>Checkmark</th>
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</thead>
<tbody>
<tr>
<td>Apron</td>
<td>_____</td>
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<td>Strainer</td>
<td>_____</td>
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<td>Hair cover (hat, hairnet)</td>
<td>_____</td>
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<tr>
<td>Colander</td>
<td>_____</td>
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<tr>
<td>Disposable gloves</td>
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<td>Mixing bowls</td>
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<tr>
<td>Recipes</td>
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<td>Measuring spoons</td>
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<td>Cutting board (2)</td>
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<td>Measuring cups (liquid and dry)</td>
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<td>Chef Knife</td>
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<td>Potato peeler</td>
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<td>Skillet or Electric skillet</td>
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<td>Spatula</td>
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<td>Dutch oven</td>
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<tr>
<td>Wire whisk</td>
<td>_____</td>
</tr>
<tr>
<td>1 Quart pan</td>
<td>_____</td>
</tr>
<tr>
<td>Ladle</td>
<td>_____</td>
</tr>
<tr>
<td>2 Quart pan</td>
<td>_____</td>
</tr>
<tr>
<td>Rubber scrapers</td>
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</tr>
<tr>
<td>3 Quart pan</td>
<td>_____</td>
</tr>
<tr>
<td>Stove top butane burner</td>
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</tr>
<tr>
<td>Extra butane for stove top</td>
<td>_____</td>
</tr>
<tr>
<td>Wooden spoons</td>
<td>_____</td>
</tr>
<tr>
<td>Potholders</td>
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</tr>
<tr>
<td>Slotted spoon</td>
<td>_____</td>
</tr>
<tr>
<td>Thermometer, oven</td>
<td>_____</td>
</tr>
<tr>
<td>Tongs</td>
<td>_____</td>
</tr>
<tr>
<td>Thermometer, meat</td>
<td>_____</td>
</tr>
<tr>
<td>Vegetable brush</td>
<td>_____</td>
</tr>
<tr>
<td>Jar opener</td>
<td>_____</td>
</tr>
<tr>
<td>Soap and washcloth</td>
<td>_____</td>
</tr>
<tr>
<td>Can opener with bottle opener</td>
<td>_____</td>
</tr>
<tr>
<td>Dish towel and dishcloth</td>
<td>_____</td>
</tr>
<tr>
<td>Foil</td>
<td>_____</td>
</tr>
<tr>
<td>Paper towels</td>
<td>_____</td>
</tr>
<tr>
<td>Saran wrap</td>
<td>_____</td>
</tr>
<tr>
<td>Scrub pad</td>
<td>_____</td>
</tr>
<tr>
<td>Vegetable spray</td>
<td>_____</td>
</tr>
<tr>
<td>Dish detergent</td>
<td>_____</td>
</tr>
<tr>
<td>Dial timer</td>
<td>_____</td>
</tr>
<tr>
<td>Plastic dishpans (2)</td>
<td>_____</td>
</tr>
<tr>
<td>Spice kit</td>
<td>_____</td>
</tr>
<tr>
<td>Serving platters and bowls</td>
<td>_____</td>
</tr>
<tr>
<td>Salt and baking soda</td>
<td>_____</td>
</tr>
<tr>
<td>Tablecloths</td>
<td>_____</td>
</tr>
<tr>
<td>Trash bags</td>
<td>_____</td>
</tr>
<tr>
<td>Folding luggage rack</td>
<td>_____</td>
</tr>
<tr>
<td>Serving utensils (spoons and forks)</td>
<td>_____</td>
</tr>
<tr>
<td>Plates</td>
<td>_____</td>
</tr>
<tr>
<td>Ice chest with wheels</td>
<td>_____</td>
</tr>
</tbody>
</table>
Dietary Conversion Guide

3 tsp. = 1 tablespoon (T)
4 T= ¼ cup
5 1/3 T = 1/3 cup
8 T = ½ cup
16 T = 1 cup
1 cup= ½ pint = 8 ounces fl.
2 cups = 1 pint= 16 ounces fl.
1 quart = 2 pints=4 cups
  32 ounces

Facts:
Rice: 1 cup raw = 16 ozs. cooked
Pasta: 1lb. raw = 32 oz. cooked
1 Tbsp. dairy protein = 4 gm. protein
References


Other Suggested Websites:
- www.WinnersDrinkMilk.com
- www.MealTime.org
- www.InnovateWithDairy.com
- www.ChooseMyPlate.gov
- www.USDairy.com/DairyresearchInstitute
Health & Wellness
The American Dairy Association Indiana Inc (ADAI) provides current, research-based nutrition information for health professionals, consumers, and teachers. Topics include sports nutrition, lactose intolerance, and nutrient-rich foods.

Schools
In Indiana, ADAI leads Fuel Up to Play 60, a school-based physical activity and nutrition program. ADAI also distributes grant funds to schools to further dairy consumption among students and offers hands-on chef in the classroom experiences.

Dairy Farming
ADAI represents 1,200 dairy farm families across the state. ADAI serves as a resource for information about dairy farming including where milk comes from, farming practices, and farm visits.

For more information, visit WinnersDrinkMilk.com
Dairy Can Help You Meet Your Protein Needs

The Institute of Medicine recommends that 10 to 35 percent of total daily calories should come from protein. That’s about 50 to 175 grams per day if you normally eat about 2,000 calories each day. Although most people meet minimum protein requirements (i.e., the low end of this recommended range), many may benefit from a moderately higher protein intake, such as active individuals and older adults. Some experts suggest that you may benefit from consuming approximately 20 to 30 grams of high-quality protein at each meal. But please remember to check with your doctor or registered dietitian before making changes to your diet and/or exercise routine.

— Leslie Banci, MPH, RD, LDN, CSSD, Director of Sports Nutrition, University of Pittsburgh Medical Center

### Protein in Common Foods

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>Protein (grams)</th>
<th>Tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>1 cup</td>
<td>8-10</td>
</tr>
<tr>
<td>Cheese, such as Cheddar</td>
<td>1/2 cup</td>
<td>9-11</td>
</tr>
<tr>
<td>Cottage cheese</td>
<td>1/2 cup</td>
<td>10</td>
</tr>
<tr>
<td>Greek-style yogurt</td>
<td>6 oz.</td>
<td>14-18</td>
</tr>
<tr>
<td>Traditional yogurt</td>
<td>6 oz.</td>
<td>5-7</td>
</tr>
<tr>
<td>Lean beef</td>
<td>3 oz.</td>
<td>22-27</td>
</tr>
<tr>
<td>Lean pork</td>
<td>3 oz.</td>
<td>24-26</td>
</tr>
<tr>
<td>Lean poultry</td>
<td>3 oz.</td>
<td>25-26</td>
</tr>
<tr>
<td>Seafood and fresh water fish</td>
<td>3 oz.</td>
<td>18-22</td>
</tr>
<tr>
<td>Eggs</td>
<td>1 large</td>
<td>6</td>
</tr>
<tr>
<td>Beans</td>
<td>1/2 cup</td>
<td>7-8</td>
</tr>
<tr>
<td>Nuts</td>
<td>1 oz.</td>
<td>6-8</td>
</tr>
<tr>
<td>Peanut butter</td>
<td>2 Tbsp.</td>
<td>8</td>
</tr>
<tr>
<td>Tofu</td>
<td>3 oz.</td>
<td>6</td>
</tr>
</tbody>
</table>

For illustration purposes only. Check the nutrition label for product specific protein content.

Get recipes that include protein at wheyprotein.nationaldairycouncil.org and nationaldairycouncil.org.
Fall In Love with Dairy Again

Do you love the taste of dairy foods, but sometimes feel uncomfortable or bloated after having milk, cheese or yogurt? If so, there are a variety of tips that may help you enjoy the recommended 3 servings of low-fat or fat-free dairy foods every day - without experiencing discomfort. This is good news because the 2010 Dietary Guidelines for Americans (DGA) recognizes dairy foods as an important source of nutrients, such as calcium, potassium and vitamin D, for those with lactose intolerance.

Enjoy Dairy Again with These Tips:

SIP IT.  Start with a small amount of milk daily and increase slowly over several days or weeks to find the amount that works with your tolerance.

TRY IT.  Opt for lactose-free milk and milk products, like Lactaid. These real milk products have lower amounts of or zero lactose and provide the same nutrients as regular dairy foods. They also taste great!

STIR IT.  Mix milk with other food, such as soup or cereal; blend with fruit; or drink with meals. Solid foods help slow digestion and allow the body more time to digest lactose.

SLICE IT.  Top sandwiches or crackers with natural cheese such as Cheddar, Colby, Queso Blanco, Monterey Jack, mozzarella and Swiss. These cheeses contain <0.1 grams of lactose per serving.

SPOON IT.  Enjoy yogurt. Traditional yogurt and Greek-style yogurt that contain live and active cultures help to digest lactose.

FAST FACTS ABOUT LACTOSE-FREE AND OTHER DAIRY FOODS

A cup of milk has 12 grams of lactose. People with lactose intolerance can often enjoy these dairy foods without discomfort:

<table>
<thead>
<tr>
<th>Dairy Product</th>
<th>Serving Size</th>
<th>Lactose*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactaid® Milk</td>
<td>(1 cup)</td>
<td>0 g lactose¹</td>
</tr>
<tr>
<td>Low-fat, Lactose-free</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low-fat Cottage Cheese</td>
<td>(1/2 cup)</td>
<td>3 g lactose²</td>
</tr>
<tr>
<td>Cheddar, Swiss,</td>
<td>(1 oz)</td>
<td></td>
</tr>
<tr>
<td>Mozzarella Cheese</td>
<td></td>
<td>&lt;0.1 g lactose²</td>
</tr>
<tr>
<td>American Cheese</td>
<td>(1 oz)</td>
<td>1 g lactose²</td>
</tr>
<tr>
<td>Plain Greek-style Yogurt</td>
<td>(6 oz)</td>
<td>4 g lactose³</td>
</tr>
<tr>
<td>Plain, Low-fat Yogurt</td>
<td>(6 oz)</td>
<td>13 g lactose²</td>
</tr>
<tr>
<td>Select Hispanic Cheeses</td>
<td>(1 oz)</td>
<td>1 g lactose³</td>
</tr>
</tbody>
</table>

* There is variation in lactose content from product to product.

Lactose-free milk is real milk, just without the lactose! So, sip and enjoy the nutritional benefits of dairy, without unwanted discomfort. People like the taste of lactose-free milk more than some of the available non-dairy alternatives.²

A wide variety of lactose-free dairy products are available, including reduced-fat, low-fat and fat-free chocolate milk, yogurt, ice cream and cottage cheese. Ask if your supermarket has a registered dietitian or staff to help guide you to more options.

¹ Look for other lactose-free products including yogurt, cottage cheese and ice cream.
² Yogurt, past and flavoured, is often well tolerated by individuals with lactose intolerance because the live and active cultures help to digest the lactose.

Common Questions About Lactose Intolerance

What is lactose intolerance?
Lactose intolerance is one type of food sensitivity (not an allergy or disease). It is the result of not having enough lactase, an enzyme that digests lactose, the natural sugar in milk. People who are lactose intolerant may experience discomfort after consuming more lactose than their system can handle at one time.

How do I know if I’m lactose intolerant?
Gastrointestinal issues, such as stomachaches or bloating can sometimes occur in people who are lactose intolerant after digesting lactose. However, these symptoms have many different causes. Your doctor can help you determine if you are lactose intolerant or if your digestive discomfort is caused by something else. The hydrogen breath test is one way doctors help determine if you are lactose intolerant.

I used to drink milk all the time when I was a child. Why am I more sensitive to dairy now?
Your body makes an enzyme called lactase to help digest the lactose in milk. As an adult, your body may be making less of this enzyme than when you were younger. This may make it more difficult to tolerate dairy.

If I am lactose intolerant, do I have to avoid all dairy foods?
Lactose intolerance is a very individual condition. Most people can continue to enjoy low-fat and fat-free dairy foods by drinking lactose-free milk, having small amounts of regular milk with meals or including natural cheeses, traditional yogurt or Greek-style yogurt in their diets.

Can’t I get all the nutrients I need without dairy foods in my diet?
Health and nutrition experts recommend individuals with lactose intolerance try to keep dairy in their diets to help meet their nutritional recommendations. The dairy food group (milk, cheese and yogurt) provides key nutrients such as calcium, potassium and vitamin D. It’s difficult to get enough of these nutrients without dairy foods in your diet.

Can I consume whey protein if I’m lactose intolerant?
If you are lactose intolerant, or sensitive to lactose, you may be able to tolerate whey protein isolate, which contains very little lactose. The amount of lactose in whey protein concentrate is higher. As always, it is important to contact the manufacturer as lactose content can vary from product to product.

Is lactose intolerance the same thing as a milk allergy?
No, being lactose intolerant is not the same as having a milk allergy. A milk allergy is caused by a reaction to the protein in milk. Lactose intolerance indicates that your body has a hard time digesting the natural sugar (lactose) in milk. While people with milk allergies must avoid dairy, avoidance is not necessary for those who are lactose intolerant.

Can children be lactose intolerant?
Lactose intolerance is less common in young children. If you think your child is lactose intolerant, talk to your family doctor, pediatrician or a registered dietitian. The American Academy of Pediatrics encourages children with lactose intolerance to consume dairy foods in order to get enough nutrients that are essential for bone health and overall growth.

According to the 2010 Dietary Guidelines for Americans (DGA), Americans are falling short on vitamin D, calcium and potassium in their diets. Milk is the #1 food source of these nutrients and the DGA recommends increasing intakes of low-fat or fat-free milk and milk products to help fill these nutrient gaps.
Win the day by starting each morning with milk. Milk is a breakfast powerhouse packed with 9 essential nutrients, including 8 grams of high-quality protein in an 8 oz. glass. Protein at breakfast can help power you through the morning so you can win the day, but not all protein sources are created equal. Milk delivers winning high-quality protein in any breakfast bottle.

**ORANGE JUICE**
- SERVING SIZE: 8 oz
- PROTEIN: 2g
- CALORIES: 120
- CARBOHYDRATE: 25g
- FAT: 0g

Naturally nutrient rich like no other beverage, milk is a breakfast powerhouse. It has nine essential nutrients, including high-quality protein to build muscle, calcium and vitamin D to strengthen bones and B vitamins for energy.

**OMELET**
- SERVING SIZE: 1 Omelet
- PROTEIN: 30g
- CALORIES: 410
- CARBOHYDRATE: 7g
- FAT: 29g

Milk is a delicious, easy and affordable way to get high-quality protein in the morning.

**BREAKFAST BURRITO**
- SERVING SIZE: 1 Burrito
- PROTEIN: 12g
- CALORIES: 300
- CARBOHYDRATE: 26g
- FAT: 14g

Whether in a glass, cup or bowl, milk helps power up your morning meal.

**BREAKFAST SAUSAGE**
- SERVING SIZE: 1 Serving
- PROTEIN: 9g
- CALORIES: 160
- CARBOHYDRATE: 0g
- FAT: 14g

Whether lowfat or fat free, all milk has 9 essential nutrients, including high-quality protein for the whole family.

**BAGEL WITH CREAM CHEESE**
- SERVING SIZE: 1 Bagel w/Cream Cheese
- PROTEIN: 13g
- CALORIES: 410
- CARBOHYDRATE: 58g
- FAT: 14g

Spreading out your protein throughout the day can optimize how your body uses it — and that means making sure you include more protein at breakfast.

**EGGS**
- SERVING SIZE: 1 Large Egg
- PROTEIN: 6g
- CALORIES: 70
- CARBOHYDRATE: 0g
- FAT: 5g

Milk has more protein than an egg!

*Nutrient data from USDA National Database for Standard Reference, Release 26 and based on nationally representative products for comparison. For complete nutrition information, visit ThBreakfastProject.com.*
Where’s the Whey Protein?

Whey protein is a high-quality, complete protein that is naturally found in dairy. It provides protein, which your body needs each day to build and maintain muscle. Eating a diet higher in protein can also help you feel full longer. And, along with regular exercise, consuming a diet rich in high-quality protein can help you maintain a healthy weight. In addition, whey protein promotes muscle repair and recovery after a workout.

Whey protein is available as a powder and can be found in many foods and beverages such as energy bars, oatmeal, yogurt, and flavored water.

Tips for finding whey protein:
- Look for these words on an ingredient label to be sure the product includes whey protein:
  - whey protein
  - whey protein isolate
  - whey protein concentrate
  - hydrolyzed whey protein
- Look for products that promote "protein" on the front label. Whey protein is often used as a high-quality protein source in products. Check the ingredient label for specific information about whey protein content.

How to spot whey protein on a label:

INGREDIENTS: PROTEIN BLEND [(WHEY PROTEIN CONCENTRATE, WHEY PROTEIN ISOLATE, HYDROLYZED WHEY PROTEIN), SOY PROTEIN ISOLATE], MILK CHOCOLATE FLAVORED COATING (SUGAR, PALM KERNEL OIL, NONFAT DRY MILK SOLIDS, COCOA POWDER, SOY LECITHIN, SALT, NATURAL FLAVOR), INULIN (CHICORY EXTRACT), VEGETABLE GLYCERIN, PEANUTS, CARAMEL (CORN SYRUP, SUGAR, NONFAT MILK, FRACTIONATED PALM KERNEL OIL, CREAM, MILK PROTEIN, NATURAL FLAVOR)...
Whey protein, as part of a diet higher in protein, can help curb hunger. Feeling less hungry may contribute to fewer calories consumed, which may help with weight loss and weight maintenance.\(^1\)\(^2\)\(^3\)

In fact, a survey by Dairy Management Inc.\(^4\) found that two-thirds of consumers said it was extremely or very important that a food or beverage makes them feel satiated.\(^4\) Consumers say that a feeling of fullness reduces their cravings for snacks, helps them eat less, and makes them feel more satisfied and content. In the same study, two-thirds of consumers agreed that feeling full is important if you’re trying to lose weight and that if you feel hungry, you can’t be at your best. Satiety benefits were especially important to people who exercise.

Research shows that calorie-for-calorie, consuming more protein can increase the feeling of fullness more than carbohydrates or fat.\(^5\)

**How Can I Increase My Protein Intake?**

Whey protein, a natural complete protein that comes from dairy, is a convenient way of adding more high-quality protein to your diet. Whey protein:

- Contains all of the essential amino acids ("building blocks") your body needs.
- Is one of the best sources of branched-chain amino acids (BCAA), especially leucine, which has been shown to help increase muscle protein.\(^6\)
- Helps increase protein synthesis, which can help our bodies function properly.

A simple way to increase protein intake is by enjoying snacks and other foods with whey protein as part of a healthy, active lifestyle. Try:

- Grabbing an energy or meal bar that contains whey protein.
- Drinking beverages with whey protein.
- Dropping a scoop of whey protein powder into your milk, yogurt, cereal, or smoothies for an added boost.

---

\(^1\) Leidy et al. The influence of higher protein intake and greater eating frequency on appetite control in overweight and obese men. Obesity 2010, 18: 1725-32.
\(^6\) Layman et al. The role of leucine is weight loss and glucose homeostasis. J Nutr 2009; 139: 2615-73.
Three steps to choosing protein: quality, versatility and timing

**QUALITY**
Not all proteins are equal for muscle protein synthesis – quality matters!
For example, whey protein is a high-quality, complete protein containing all of the EAA* and high levels of BCAA**.

<table>
<thead>
<tr>
<th>BCAA Content of Foods</th>
<th>Leucine</th>
<th>Isoleucine</th>
<th>Valine</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 scoop (36 g) whey protein isolate</td>
<td>4.7 g</td>
<td>2.1 g</td>
<td>1.9 g</td>
</tr>
<tr>
<td>1 scoop (36 g) soy protein isolate</td>
<td>2.4 g</td>
<td>1.5 g</td>
<td>1.5 g</td>
</tr>
<tr>
<td>3.5 oz sirloin steak</td>
<td>2.3 g</td>
<td>1.3 g</td>
<td>1.4 g</td>
</tr>
<tr>
<td>3.5 oz chicken breast</td>
<td>2.5 g</td>
<td>1.5 g</td>
<td>1.6 g</td>
</tr>
<tr>
<td>1 cup low-fat yogurt</td>
<td>1.3 g</td>
<td>0.7 g</td>
<td>1.1 g</td>
</tr>
<tr>
<td>1 cup skim milk</td>
<td>0.9 g</td>
<td>0.5 g</td>
<td>0.6 g</td>
</tr>
<tr>
<td>1 egg</td>
<td>0.5 g</td>
<td>0.3 g</td>
<td>0.4 g</td>
</tr>
<tr>
<td>2 tbsp peanut butter</td>
<td>0.5 g</td>
<td>0.2 g</td>
<td>0.2 g</td>
</tr>
</tbody>
</table>

*USDA National Nutrient Database for Standard Reference, Release 26
**USDEC Reference Manual for U.S. Whey and Lactose Products

**VERSATILITY**
Whey protein can easily be added to a variety of foods and recipes.
More whey recipes can be found at www.wheyprotein.nationaldairyCouncil.org/recipes.

- Stir into hot foods (not boiling), such as soups, pasta sauces and stews immediately after cooking
- Use as an ingredient in baked goods
- Include in savory or sweet dips
- Stir into hot cereal or creamy sauces
- Add to peanut or other nut butters

**TIMING**
Add high-quality protein, such as whey protein, to meals and snacks to boost protein intake. Some experts suggest 20-35 g at each meal to help maintain muscle. Here are a few ideas:

- **Breakfast**: Berry Smoothie: Nonfat Greek yogurt, frozen berries, banana, ice + 3 tbsp vanilla whey protein powder
- **Lunch**: Tomato soup + 2 tbsp whey protein powder, whole wheat toast with low-fat cheese, apple
- **Snack**: Carrots and whole wheat pretzels, reduced fat ranch dressing + 2 tbsp whey protein powder
- **Dinner**: Whole wheat pasta, marinara sauce + 3 tbsp whey protein powder, spinach salad with Italian dressing

* Essential amino acids
** Branched chain amino acids
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For more information and recipes, visit us at www.wheyprotein.nationaldairyCouncil.org.
Protein: Understanding the Basics

Make Your Protein Work Harder for You
Protein Can Help Power Your Plate and Your Lifestyle

Maximize the power of protein

Although most Americans meet their protein needs, some people may benefit from diets higher in protein such as athletes, aging adults and those trying to manage their weight. This fact sheet will help you learn how to maximize the protein in your diet. From helping build muscle with exercise to providing easy and tasty options at meals, high-quality protein foods, such as dairy foods, can help you meet your health and wellness goals.

FAQ:

What exactly is protein?

Protein is an essential nutrient (like fat and carbohydrate) your body needs each day. Not all proteins are equal – quality can make a difference. High-quality protein foods make it easy for you to get all of the essential amino acids your body needs to build and maintain muscles and help your body work properly.

Where can I get protein?

Protein is naturally found in animal foods and some plant foods, but the amount and quality of protein varies. The quality of protein is measured by the type and amount of amino acids it provides and by how well the body uses the protein.

What are high-quality proteins?

Dairy foods such as milk, flavored milk, cheese, cottage cheese, yogurt and Greek-style yogurt are good examples of high-quality protein. High-quality protein provides all the essential amino acids your body can't make on its own. The high-quality protein found in foods such as dairy foods, eggs, lean beef and pork, skinless poultry, fish and soy offer convenient options to help you meet your protein needs.

What exactly is whey protein?

Whey protein is a high-quality protein that is naturally found in milk. It can help provide the protein your body needs each day and can be conveniently added to foods and beverages to increase the protein content.

What about plant proteins?

Plant proteins can help meet nutrition needs, too. But unlike animal foods, it may not be as easy because most plant foods, including many beans, peas, seeds, nuts, vegetables and grain products, do not provide the significant amounts of the essential amino acids the body needs. Therefore, a variety of plant proteins are often needed to ensure amino acid needs are met.

What are amino acids?

The basic structure of protein is not a single, simple substance, but a multitude of chains of amino acids, which are building blocks that help build, repair and maintain body tissues. There are a total of 21 amino acids; the body makes 12 of them, which are called nonessential amino acids, but the other 9 are called essential amino acids, because the body cannot make them so they must come from food.

Did you know? A little more than half of people are trying to get more protein in their diets, and about 20 percent of adults indicate they’re actively doing something about it, such as checking labels or changing their eating behavior. Potentially, this could equate to more than 45 million people! Do they know something you don’t? Choosing high-quality protein sources can help benefit a variety of health and wellness goals.
Fast Facts:
- Your body uses protein all day long to actively build, repair and maintain muscle tissues. Try eating foods containing high-quality protein as an easy way to help get your protein throughout the day.
- Your protein can work better for you, if you choose high-quality sources to help ensure you get all the essential amino acids you need. Don’t forget to include high-quality protein with breakfast – many people skip this important meal altogether!
- If you are planning meals with less meat, include high-quality protein such as that found in milk, cheese, yogurt or whey as a convenient way to help you get the essential amino acids your body needs.

Did You Know?
- In addition to protein, dairy foods (milk, cheese and yogurt) are important sources of calcium, potassium, phosphorus, magnesium, zinc, vitamins A, D and B_6_ and riboflavin in the U.S. diet.
- Dairy proteins are high-quality proteins that can help build and repair your muscles following a hard workout.
- Diets higher in protein have been shown to help slow muscle loss that occurs as you get older, help curb hunger and help maintain a healthy weight.

Can I get high-quality protein by eating more meat, chicken, fish and dairy foods?
Yes. Healthy diets, including predominantly plant-based diets, should regularly include high-quality, lower fat sources of protein, such as low-fat and fat-free dairy foods, lean meats, chicken, fish and eggs to help you easily meet your protein needs. Find out how many servings of these types of foods are recommended each day based on your age, gender and activity level at [www.ChooseMyPlate.gov](http://www.choosemyplate.gov). Depending on your typical exercise routine and your age, however, you may benefit from additional protein. Eating additional servings of these foods or consuming whey protein, throughout the day, while staying within your calorie needs, are options that can help you satisfy your nutritional needs.

— Dan Berardot, PhD, RD, Professor of Nutrition, Professor of Kinesiology & Health, Georgia State University

<table>
<thead>
<tr>
<th>Protein in Common Foods</th>
<th>Serving Size</th>
<th>Protein (grams)</th>
<th>Tip</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>1 cup</td>
<td>8-10</td>
<td>Choose low-fat or fat-free varieties, including flavored or lactose-free options.</td>
</tr>
<tr>
<td>Cheese, such as Cheddar</td>
<td>3.5 oz</td>
<td>9-11</td>
<td>Choose reduced-fat or low-fat cheese.</td>
</tr>
<tr>
<td>Cottage cheese</td>
<td>1/4 cup</td>
<td>13</td>
<td>Choose low-fat or fat-free varieties.</td>
</tr>
<tr>
<td>Greek-style yogurt</td>
<td>6 oz.</td>
<td>14-18</td>
<td>Choose low-fat or fat-free varieties.</td>
</tr>
<tr>
<td>Traditional yogurt</td>
<td>6 oz.</td>
<td>5-7</td>
<td>Choose low-fat or fat-free varieties.</td>
</tr>
<tr>
<td>Lean beef</td>
<td>3 oz.</td>
<td>22-27</td>
<td>Choose cuts with round or loin in the name, such as sirloin, round tip, tenderloin and top round.</td>
</tr>
<tr>
<td>Lean pork</td>
<td>3 oz.</td>
<td>24-26</td>
<td>Choose cuts with loin in the name, such as tenderloin, top loin and Canadian bacon.</td>
</tr>
<tr>
<td>Lean poultry</td>
<td>3 oz.</td>
<td>25-26</td>
<td>Choose breast meat, and remove the skin before eating.</td>
</tr>
<tr>
<td>Seafood and fresh water fish</td>
<td>3 oz.</td>
<td>18-22</td>
<td></td>
</tr>
<tr>
<td>Eggs</td>
<td>1 egg</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td>1/4 cup</td>
<td>7-8</td>
<td>Choose beans such as kidney or pinto.</td>
</tr>
<tr>
<td>Nuts</td>
<td>1 oz.</td>
<td>6-8</td>
<td></td>
</tr>
<tr>
<td>Peanut butter</td>
<td>2 Tbsp.</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Tofu</td>
<td>3 oz.</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

For illustration purposes only. Check the nutrition label for product-specific protein content.

Get recipes that include protein at [wheyprotein.nationaldairycouncil.org](http://wheyprotein.nationaldairycouncil.org) and [nationaldairycouncil.org](http://nationaldairycouncil.org).

*Look for products containing 5 grams or more of protein per serving.*
Protein Can Help Each Day
Get the Most Mileage From Your Food Choices

Are you getting the most mileage from your food choices? If you lead a busy lifestyle, like most Americans, you will likely appreciate help getting the most nutrition and benefits from your meals and snacks. Protein is an important part of optimizing nutrition throughout the day.

Do you tend to eat the majority of your protein at dinner? Many experts suggest it may be better to spread out protein containing foods more evenly across meals and snacks to reap benefits associated with higher protein diets.

Think of proteins as tiny workers that are necessary for virtually every activity in the body. There is a limited store of protein for the body to pull from and use throughout the day. That is why spacing out balanced meals and snacks that contain high-quality protein helps your body put protein to work.

FAQ:
Why is protein important throughout the day?
Protein is an essential nutrient your body uses throughout the day. From helping you curb your hunger to helping with weight management and preserving lean body muscle, diets higher in protein can help power your path to health and wellness.

— For more information on protein basics, see Protein: Understanding the Basics.

What are good sources of protein from the dairy group?
Dairy foods naturally contain high-quality, complete protein.

- Milk, flavored milk, cheese, cottage cheese, yogurt and Greek-style yogurt are good examples of foods with high-quality protein.* Dairy's protein will be present regardless of the type or variety of dairy product you choose, such as milk, cheese or yogurt (e.g., regular, low-fat, fat-free, reduced-sodium, lactose-free, etc.).
- Whey protein, a high-quality milk protein, also can help people meet their protein needs.

 Breakfast – what should I eat for the most important meal of the day?
Breakfast is the most important meal of the day, because it's time to refuel the body after a night's sleep. Increasing protein intake at breakfast, which is typically lower in protein than other meals, may help you optimize the benefits of protein. Eating foods that contain protein as part of a balanced breakfast not only helps break the all-night fast but also gets you started on the right path for the day.

Did You Know?
- Getting enough protein in your diet over the course of the day, as part of a diet higher in protein, may help in weight management by helping you:
  - Maintain muscle during weight loss, when following a higher protein, reduced-calorie diet.
  - Feel satisfied longer between meals.
- Americans tend to consume more protein at lunch and dinner, but less protein at other parts of the day, such as breakfast and snack time.
  - By spreading out high-quality protein throughout the day, at meals and snacks, you can help your body get the most from its protein all day.
  - An 8-ounce glass of milk, 1-ounce of most cheeses and an 8-ounce container of yogurt each have as much protein as one egg.
- In addition to protein, dairy foods (milk, cheese and yogurt) are important sources of calcium, potassium, phosphorus, magnesium, zinc, vitamins A, D and B₁₂ and riboflavin in the U.S. diet.
Tips for getting more protein on the go

Including dairy in your between-meal snacks can be a great way to help you achieve a higher protein diet. Diets higher in protein can help you curb hunger. Try these tips for snacking on the go with dairy:**

- Yogurt containers are perfectly sized to stash in your backpack, briefcase or purse on the way out the door, and you can put yogurt in the fridge at work for later or eat it once you arrive at your destination.¹
- Choose milk as a snack choice because of its versatility, nutrition and convenience. Plus, one 8-ounce glass of milk has as much protein as a handful of nuts.
- Portion out chunks or slices of cheese; they will be ready to eat anytime and anywhere – plus, who doesn’t love cheese?
- Add dairy protein such as whey protein, a protein naturally found in milk, to your favorite foods and beverages for a protein boost.

Should I be concerned about getting too much protein?

The Institute of Medicine recommends that 10 to 35 percent of total daily calories should come from protein. That’s about 50 to 175 grams per day if you normally eat about 2,000 calories each day. Although most people meet minimum protein requirements (i.e., the low end of this recommended range), many may benefit from a moderately higher protein intake, such as active individuals and older adults. Some experts suggest that you may benefit from consuming approximately 20 to 30 grams of high-quality protein at each meal. But please remember to check with your doctor or registered dietitian before making changes to your diet and/or exercise routine.

- Leslie Bonci, MPH, RD, LDN, CSSD, Director of Sports Nutrition, University of Pittsburgh Medical Center

**Myth:** Only younger people need to worry about getting enough protein.

**Fact:** No matter your age, your body needs to replenish its protein stores each day. In fact, diets higher in protein can help you maintain muscle to help stay active as you age.

**Myth:** Protein only comes from meat.

**Fact:** Protein sources include meat, poultry or fish; milk, cheese and yogurt; eggs, beans and tofu; and nuts, seeds and peanut butter. Find out more about sources of high-quality protein from Protein: Understanding the Basics.

From healthy muscles to healthy bodies to learning how to pick the best options for meatless meals to managing weight and controlling hunger, diets higher in protein can help you meet health and wellness goals. Get recipes that include protein at wheyprotein.nationaldairycouncil.org and nationaldairycouncil.org.

*Look for products containing 5 grams or more of protein per serving.
**Choose low-fat or fat-free milk and yogurt and lower fat varieties of cheese.
³Check the label for proper refrigeration for yogurt and soft cheeses.
WHEY PROTEIN

Whey protein is a high-quality, complete protein naturally found in dairy.

Try these tips for adding whey protein powder to everyday foods:

- Stir into hot—not boiling—foods immediately after cooking
- Use as an ingredient in baked goods
- Add to ground meats before cooking
- Include in savory or sweet dips
- Stir into hot cereal or creamy soups and sauces
- Add to peanut or other nut butters

Get whey protein recipes, research, and educational materials at www.wheyprotein.nationaldairycouncil.org
Boost the protein power of your favorite foods with these delicious combinations:

**SUPERIOR SMOOTHIE:**
- 1/2 cup reduced-fat or fat-free vanilla Greek yogurt + 1/2 cup frozen berries + 1 scoop vanilla whey protein powder + ice

**OATMEAL PLUS:**
- 1/2 cup oats prepared with 1 cup low-fat or fat-free milk + 1 Tbsp vanilla whey protein powder + 1 tsp cinnamon + 1/4 cup raisins + 1 Tbsp maple syrup

**SATISFYING SNACKS:**
- 1 cup low-fat or fat-free cottage cheese + 1 scoop unflavored whey protein powder + 1/2 cup blueberries
- 2 Tbsp peanut butter + 1 Tbsp unflavored whey protein powder + 2 celery sticks

**REVVED-UP SOUP:**
- 1 cup tomato soup + 1 scoop unflavored whey protein powder + 1/4 cup reduced-fat cheddar cheese (as topping)

**POWER-PACKED PASTA MEAL:**
- 1 lb lean ground beef + 1/2 cup unflavored whey protein powder + 1/2 cup chopped onions + 1 clove minced garlic + 1 jar pasta sauce + 1/2 lb whole grain pasta

Refer to TIPS on front for best results.

Visit [www.wheyprotein.nationaldairyCouncil.org](http://www.wheyprotein.nationaldairyCouncil.org) for more tips and recipes!
PROTEIN

Protein is an essential nutrient (like fat and carbohydrate) your body needs each day to help build and maintain muscle mass. Nevertheless, not all proteins are created equal—quality can make a difference. High-quality protein foods make it easy for you to get all of the essential amino acids your body needs to build and maintain muscle and help your body work properly. Among protein sources, whey protein is an easily digested, rapidly absorbed high-quality protein that is naturally found in dairy.

Research shows that whey protein helps promote muscle repair and recovery after exercise. Additionally, numerous scientific studies have been conducted to better assess the benefits of higher protein diets, including many studies incorporating whey protein. Findings from this body of research show consuming a higher protein diet can help people:

- maintain a healthy weight
- curb hunger
- build lean muscle (with regular resistance exercise)
- enhance exercise recovery
- maintain muscle mass as they age

The following are summaries of several published findings in these areas. For more information on whey protein, visit www.wheyprotein.nationaldairycouncil.org.

MAINTAIN A HEALTHY WEIGHT

Whey Protein, as Part of a Diet Higher in Protein, Can Help with Weight Maintenance

Results from clinical trials indicate higher protein diets may help people preserve lean body mass and maintain a better body composition. Following a higher protein diet after weight loss may also result in less weight regained, with most of what is regained in subsequent months being muscle. In addition, high-quality protein, such as whey protein, may aid in weight maintenance by promoting satiety, thermogenesis (production of heat by the body) and energy efficiency, and by improving body composition.
**CURB HUNGER**

*Whey Protein, as Part of a Diet Higher in Protein, Can Help Curb Hunger*

Eating more protein may help people eat less because consuming protein as part of a higher protein diet increases the feeling of fullness more than carbohydrate or fat.²⁰ Further, there is evidence that shows increasing the amount of protein in the diet can lead to decreased total caloric intake and body weight.²⁰

**BUILD LEAN MUSCLE**

*Whey Protein, With Regular Resistance Exercise, Can Help Maximize Muscle Growth*

Whey protein increases the rate at which the body makes lean muscle because it is one of the best sources of naturally occurring branched-chain amino acids, including leucine.²¹ Research shows that consuming whey protein in combination with resistance exercise can boost the rate at which the body makes lean muscle, which may improve body composition.¹,³,⁴ Moreover, the combination of protein intake and resistance exercise has been shown to be more effective at increasing lean muscle than either of the two alone, or than the combination of resistance training and ingestion of a carbohydrate.²²-²⁸

**ENHANCE EXERCISE RECOVERY**

*Whey Protein Can Help Enhance Muscle Recovery After Exercise*

Consuming whey protein post-exercise can help maximize the effects of exercise by increasing the rate at which the body makes lean muscle.¹,³,⁴ Further, some studies suggest consuming whey protein during and/or after exercise may improve strength²⁹-³¹ and support muscle function³²,³³ after fatigue; however, more research is needed.

Visit [www.wheyproteins.nationaldairy.org](http://www.wheyproteins.nationaldairy.org) for more information about the power of whey protein.
REDUCE MUSCLE LOSS AND SUPPORT HEALTHY AGING

Higher Protein Intakes, Including Whey Protein, Can Help Maintain Muscle Mass in the Aging

It is estimated that by 2030 one in five U.S. residents will be 65 and older. This population should pay special attention to maintaining their muscle mass as decreased physical activity, chronic diseases and nutritional deficiencies may contribute to the development of sarcopenia. Sarcopenia is a progressive process that can be characterized by approximately 3-8% reduction in lean muscle mass per decade after 30 years of age, and this rate may be even higher as individuals age.

In particular, aging muscle seems to be less responsive to lower amounts of amino acids than younger muscle. As a result, consuming more than the Recommended Dietary Allowance (RDA) for protein (0.8 grams per kg body weight) may be beneficial for older adults to help them meet their metabolic and physiological needs.

Quality and timing are also important factors to consider. Experts suggest that consuming 20-30 grams of high-quality protein at each meal may help older adults maximize their ability to make more protein, which in turn, may help preserve muscle or slow muscle loss associated with aging. However, more research is needed.

Reference List


Visit www.wheyprotein.nationaldairycouncil.org for more information about the power of whey protein.
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