

PHENOMENAL
PROTEIN
SHAKES MADE
EASY

Brought to you by



INTRODUCTION

Whether it's before a run, after lifting weights or as one of those meals between meals, you stir or shake up a scoop of powder into cold water and that's that. A powerful dose of muscle-building protein is ready to enjoy. As simple and convenient as this task is, there are times when you're longing for something more. Not that your shake of choice lacks anything. You can recite the Nutrition Facts panel from memory and that formulation is as clean as it gets. Taste-wise you have no complaints, and the thickness of your biceps is a testament to the end result. Still, your shake can always be made better. Kind of like the way you approach progress in the gym.

Maybe you're looking for an easy way to work the recommended 5 daily servings of fruits and vegetables into your diet. It could be that you're out to lose or gain weight. Even if your goal is to more fully recover from endurance or strength training, or out-do the corner smoothie parlor's frozen concoctions, this e-book is here to help you explore the infinite possibilities of protein powders. We think you'll find that with just a shaker cup and some basic ingredients found in any kitchen you can rev up a shake to provide enhanced performance, nutritional value and flavor.

Think versatility and add a glycogen replenishment component, thermogenic catalyst or a couple of ingredients to fine-tune your shake's consistency or satiety potential. Taking the process a step further by plugging in an electric blender opens the door to greatly expanded shake-making horizons. But before we dive head-first into this brave new world of protein, let's get down to the basics. You might be surprised at how much you can improve your shake with a little attention to detail.

CHAPTER I

MIXOLOGY

A Perfect Shake Every Time

If the protein powder you use has been instantized, a process that helps powders dissolve in liquid much more easily, all you really need to mix up a basic shake is a glass and spoon. That's true whether we're talking about whey, casein, egg, soy, blended proteins, recovery formulas, or just about any other type of powdered protein, although there will be noticeable differences in consistency. For instance, fast-digesting whey generally ends up as a thinner drink than the more slowly digesting casein. Of course, the end result can be altered by adding or subtracting volume.

Select your liquid of choice (water, milk or juice) well beforehand so you can cool it down. The people who created these shakes taste-tested the flavor profile as a cold drink. Maybe even more important is the fact that you consciously and subconsciously expect a shake to be cold. The fact is ingrained in you from childhood. If your mixture is warmish or even room temperature it may not taste as good as you think it should. Now this next tip is crucial: pour the liquid into the glass *before* the powder. That helps prevent bottom clumping.

How much liquid should you use? Most often, the recommended quantity will be expressed as a range (i.e.; 6 to 8 ounces) on label instructions. Here's where personal preferences take over. Say you like a shake with more taste and texture. Just use less liquid to fill your glass. Start with the lowest figure in the recommended range (6 ounces in the case of 6 to 8 ounces), but feel free to subtract even more if desired. Doing so won't change the potency or nutritional profile of your protein, provided you stick with the basic scoop-sized serving. If, on the other hand, you favor a less potent creation, add more liquid volume to the same scoop of powder. After experimenting with a few shakes, you'll settle on what best suits your particular tastes.

The Shaker Cup Advantage

You've no doubt seen someone filling a large cylindrical plastic container at your gym's water fountain. The thing kind of looked like a Tupperware flower vase, except for the screw-on cap. Then you realized that it was being used as a very portable human-powered blender. The shaker cup, as it's commonly called, is literally a cup for shaking up liquid and powdered ingredients. Some of the nicer ones have perforated inserts for holding ice cubes in place, graduated fluid measuring scales running up the side and drinking spouts with snap-tight caps. For about \$5, the shaker cup presents you with a quick and easy way to more thoroughly agitate the powders that go into your shake while providing a handy means for transporting pre-measured ingredients to the gym.

As noted in the section on glass and spoon mixing, you'll want to add the liquid ingredients to your shaker cup first. So, before you head to your favorite workout location, pre-measure out your protein powder along with any customized ingredients and pour them into a baggie you can seal securely and stuff inside the empty shaker cup. While you could mix up the whole shake liquid and all before training, you might run into temperature issues by the time you get to drinking it. Then there's the possibility that milk-based protein ingredients and perhaps also your own special additions could spoil if left for hours in a hot car or locker. You really should refrigerate a shake that isn't going to be consumed within 10 or 20 minutes of being made.

Electric Blender Magic

Up to an hour. That's your optimal timeframe for getting a protein shake into your system post-workout, when you stand to realize the greatest degree of support for your gains. Most days, you'll be able to make it all the way home and still have plenty of time to create the ultimate custom shake using an electric blender. Not only can you mix in about anything short of a cinder block, but the ability to grind in ice cubes provides temperature regulation along with thickness enhancement. In essence, a blender gives you the power to produce a delicious healthy version of your favorite ice cream parlor concoction. The only drawback is clean up. Of course, after dominating huge stacks of plates, you're not about to let soapy water and a dish rag stand between you and superior recovery.

As you can see, the more convenient the shake mixing method, the more limited your options will be. So just like your dialed in 6-meal a day eating program, making phenomenal protein smoothies requires a modest amount of game planning. Case in point, you'll need to make a weekly shopping list of the things you want to include in your shakes so they're on hand when needed. Once you get into the meat of this book – and click around our accompanying web site OptimumSmoothie.com – we think you'll agree that making the effort can be very worthwhile indeed.

CHAPTER II

THE NUTS & BOLTS OF NUTRIENTS

Your motivation for mixing additional components into any protein shake should be driven by performance as much as flavor enhancement. Make no mistake, you can influence any number of physiological factors in much the same way that protein supports muscle gains. A basic rundown of nutrient facts might be in order before we get into the specifics of what does what.

Macro & Micro Nutrients

Macro is large, micro small. The macronutrients are the major ones that everyone's heard of: protein, carbohydrates and fat. Micronutrients are just as essential to your body's growth and maintenance. The only difference is they're required and used in tiny amounts. Primarily delivered in the form of vitamins and minerals, free radical fighting antioxidants fall into the micronutrient category as well. They may be small, but as you know from the way your multivitamin supports general mood and vitality, they're anything but insignificant. To underscore that point, one of their primary roles is helping your body process and utilize all 3 macronutrients.

We've already established protein's role in muscle building. But to recap, while the ideal timing differs between types of protein (whey, casein or blend) the essential amino acids stimulate protein synthesis and help your metabolism keep nitrogen balance tipped toward the positive. If nitrogen goes negative, as it tends to after a strenuous workout, your muscles can enter a catabolic state where tissue breakdown occurs. Protein has anti-catabolic properties that assist with recovery so muscle fibers can rebuild bigger and stronger than before.

Time to talk carbohydrates. Now don't go cowering in fear behind the weight bench. You can't build muscle without carbs. How are you going to lift that massive poundage without the energy that carbohydrates provide? Carbs refuel the glycogen your body burns during training, helping to prevent the breakdown of muscle tissue for amino acid fueled energy. Looking at it that way, carbs are actually protein sparing. Adding a banana to a chocolate whey protein shake can help you top off glycogen stores before a big workout while providing plenty of potassium

(a micronutrient mineral) known to play a critical role in powering muscle contractions. Before bed, you might enhance the sustained release recovery mechanisms of micellar casein protein by adding pomegranate to the mix. Doing so promotes glycogen replenishment with a side order of antioxidant support. Intense exercise releases free radicals which can do damage if left unchecked, so that's a double whammy of fruit-flavored functionality.

That leaves us with fats. Here's another macronutrient that many people wrongly avoid. Your body requires essential fatty acids just like it needs proteins and carbohydrates. Fat helps transport vitamins throughout your body while providing stored energy for physical activity. A gram of fat equals 9 calories, and a pound of stored body fat gives you about 4,000 calories of energy. True, this energy is more difficult for your system to tap into during relatively short bouts of resistance training or wind sprints. Fat would rather be used over the long haul during distance runs and extended duration, moderate intensity endurance exercise. Here's why: it takes a longer time and a larger amount of oxygen to convert stored body fat to energy. Avoid the saturated fats and stick with the mono and polyunsaturated fats you get from fish, nuts and seeds along with olive and flaxseed oils.

Balancing Performance With Taste

Before you cut yourself loose grinding up piles of ingredients for a shake, figure out exactly what it is you want to accomplish. Your goal might be satiety, glycogen replenishment, muscle recovery, endurance. After you've established the purpose, the rest of the pieces will fall right into place. Here's an example: you want something to prime muscles for growth before hitting the gym. The last part of your goal sets the timing at 30 minutes before starting your workout. Now an ingredient that supports energy and focus might also be appreciated. Something like caffeine. The muscle-priming will come from protein and since you're only going to be training for an hour at most, it should be fast-acting. Choose either an all-whey protein or a blend that includes plenty of whey. With that decided, let's shift our focus to taste. You're the best expert on what tingles your

own taste buds, but here's a suggestion: Vanilla Chai flavored Gold Standard 100% Whey™ and diet cola.

The flavor's zesty, spicy and refreshing, but you have to watch the clumping in the bottom of your glass. Whey powder will do that in an acidic environment like soda pop. You'd do well to spoon stir this treat, because a blender and even the shaker cup provide too much agitation, resulting in way too much fizz. What you gain is 24 grams of fast-digesting protein with 3 grams of carbs and just 1 gram of fat. The whole drink amounts to 120 calories and the 46 milligrams of caffeine per 12 ounce can give you a mental boost equivalent to about half a cup of coffee. Cooled-down coffee can be used to make a similar pre-workout shake, except we'd recommend a more chocolaty flavor selection. These are just 2 of the many recipes you'll find at OptimumSmoothie.com.

Timing Is Everything

When you really get into dialing in a diet, the challenge extends beyond what you consume to encompass when. There's an optimal time to intake different nutrients. For instance, after weight training your muscles need essential amino acids from protein to rebuild. The best time to supplement with a fast-acting protein is within an hour of completing your lifting routine. That is, unless you drank a whey shake right beforehand. Regardless of the pre- or post-workout protein, you're going to need a protein-rich chicken breast, salmon filet or other food source within a couple hours. Then there's the time you spend off in dreamland away from all food and supplement options. That's when the vast majority of muscle rejuvenation takes place. So you can see how a slow-digesting protein makes an ideal 'before bed' shake.

What about hard-charging runners, bikers and swimmers? Endurance athletes need protein same as strength athletes and can use it in much the same way for muscle support. However, they require plenty of carbohydrates to fuel extended duration aerobic training. Carbs are crucial for replenishing spent glycogen burned during exercise. Over the long haul, the endurance athlete's body starts to consume body fat as an

energy source, but when carbs are nearly completely depleted they ‘hit a wall’ as the saying goes. It’s a dangerous condition where an athlete can become disoriented since the brain draws on another carbohydrate-based energy source known as glucose. Fast carbs from whole fruits and fruit juices are great for topping off prior to training or restoring muscle glycogen afterward. Healthy omega-3 fatty acids from nuts, seeds and oils have a place in every athlete’s diet too. Coincidentally, all of these components make very logical additions to protein shakes.

Nutrient Timing on Resistance Training Day

7AM	Breakfast of 2 Eggs, Whole Wheat Toast & Coffee (172 calories, 14 grams protein, 23 grams carbs, 2 grams fat)
9	Workout
10	Whey Protein Shake Made with 8 oz Grapefruit Juice (226 calories, 25 grams protein, 27 grams carbs, 2 grams fat)
Noon	Lunch of Skinless Chicken Breast & Peaches on Lettuce (183 calories, 28 grams protein, 15 grams carbs, 3 grams fat)
3PM	Lift Bar for energy and protein (250 calories, 20 grams protein, 33 grams carbs, 4 grams fat)
6PM	Dinner of Salmon Filet & Asparagus (10 oz. package) (614 calories, 87 grams protein, 6 grams carbs, 26 grams fat)
9PM	Chocolate Casein Shake blended with ½ cup ground almonds (393 calories, 34 grams protein, 14 grams carbs, 24 grams fat)
Total:	1838 calories, 208 grams protein, 118 grams carbs, 61 grams fat

Note: Only 6 of the 61 grams of fat listed in the total above are saturated fats. Omega-3 essential fats – which are not only healthy but ‘essential’ – make up the vast majority of this figure for total fat.

Nutrient Timing on Cardio Training Day

7AM	Breakfast of Grapefruit, Whole Grain Toast & Coffee (229 calories, 9 grams protein, 45 grams carbs, 2 grams fat)
9	Training
10	Whey Protein Shake Made with 12 oz Apple Juice (301 calories, 24 grams protein, 46 grams carbs, 2 grams fat)
Noon	Lunch of Chicken Caesar Salad & Bunch of Grapes (325 calories, 32 grams protein, 39 grams carbs, 6 grams fat)
3PM	Yogurt (127 calories, 13 grams protein, 17 grams carbs, 0 grams fat)
6PM	Dinner of New York Strip Steak & Sweet Potato (353 calories, 51 grams protein, 24 grams carbs, 6 grams fat)
9PM	Vanilla Casein Shake with 1 cup fresh raspberries (184 calories, 25 grams protein, 18 grams carbs, 2 grams fat)
Total:	1519 calories, 154 grams protein, 189 grams carbs, 18 grams fat

CHAPTER III

INGREDIENT OPTIMIZATION

Smoothie Ingredient Shopping Tips

If you want your foods fresh, whole and healthy, shop your grocery store's perimeter. With few exceptions, this simple tip will steer you toward all the ingredients to help you maintain weight, health and energy. That's as true for protein smoothie ingredients as it is for other meal time food selections. The parallel aisles are packed with packaged goods, which are typically highly processed and loaded down with sugar and sodium. Push your cart around the four walls that define this rectangular space and you'll find refrigerators filled with fresh meats, dairy products, vegetables and fruit. That's where the natural goodness is at.

The freezer section is one of the few exceptions to this rule. Frozen fruits work very well in protein smoothie blender recipes. Not only do frozen choices present you with more fruit options, especially during the off-season, but they work like ice cubes to cool down and enhance the texture of blender-made shakes. Frozen choices retain all the vitamins, minerals and antioxidants of fresh ripe fruit, so don't worry about cheating yourself out of any nutrients.

Farmers Markets & Farm Stands

When produce is in season, local growers often offer their goods at organized farmers markets as well as their own roadside farm stands. If you're lucky enough to have access to such outlets, they can be a great source of fresh fruits, herbs and vegetables. You'll still have to thoroughly wash whatever you buy, but they most likely won't be coated with the waxy film commercial producers apply to inhibit mold growth and bruising. Pricing can range from slightly more expensive to a little bit cheaper than typical grocery stores. One thing's for sure: you won't find these items any fresher! If you really get industrious, you can preserve enough in freezer bags to last the entire year, provided you have enough room in the freezer. Buying in quantity can also give you some leverage for negotiating a discount. Just be sure to wash thoroughly prior to freezing.

Taking Ingredients Along For The Ride

Bodybuilders and other athletes understand the benefits of consuming 5 or 6 small meals as opposed to 3 large ones (breakfast, lunch and dinner). By keeping your metabolism busy digesting food every 2 to 3 hours, you avoid big spikes in blood sugar that can result from eating a lot at one sitting. The smaller meals help you avoid these surges and the corresponding crashes that are sometimes jokingly referred to as a 'food coma'. Of course, the sluggishness and fatigue are no laughing matter. They're brought about because your metabolism goes dormant for long stretches between the 3 big meals. Eating 5 to 6 smaller portions spaced every few hours throughout the day keeps your metabolism on the job, digesting food and burning calories. This strategy also makes it easier to work nutrient-dense protein smoothies into your diet plan. Of course, you'll need to have healthy food choices available all day long. Here are a couple of tips for making this scenario easier to swallow.

You're going to really appreciate a compact cooler for transporting perishable foods. It's also handy for keeping fruits and beverages cool, including pre-made protein smoothies. You can blend up whatever ingredients you need for the type of training you plan to undertake, and have it all ready to drink from a sealed shaker cup. Just agitate for a few seconds to stir up the goodness before enjoying.

If your protein smoothie ingredients can be mixed up in a shaker cup, this tip can save you some money while providing cold filtered water for your pre- or post-workout protein smoothie. The night before, put a couple of bottled waters in your freezer. Then in the morning, when you're packing the cooler, substitute the now frozen solid water bottles for ice cubes. You won't have to worry about the melt-off sloshing around in your cooler, plus you'll save yourself the expense of buying those blue-liquid-filled freezer packs that have a tendency to crack and leak over time. Another advantage is that you can drain the partially melted water from your frozen water bottles to mix up your shake at the gym. That's putting your money where your mouth is...literally!

Choosing The Right Protein Powder

There are protein powders formulated for pre- and post-workout, between meals and before bed. There are specialized blends for dieting, gaining weight, satisfying the demands of professional-level competitors and helping vegetarian athletes get their fill of essential amino acids. The options seem to expand every time you visit your favorite retailer. Rest assured, there's a protein that's ideal for your specific goals. Download a copy of ON's informative Protein Report at ProteinReport.com for an easy to understand overview of powdered protein types and applications.

CHAPTER IV

PREVIEW RECIPES FROM OPTIMUMSMOOTHIE.COM

NitroCore 24® Wake Up

Directions

- 1) Pour 1 cup (10 ounces) of black coffee into a glass or shaker cup
- 2) Add 1 scoop of Cookies And Cream flavored NitroCore 24®
- 3) Stir with spoon or shake in cup until thoroughly mixed

MIXING NOTE: Although this same beverage can be mixed in an electric blender, it isn't necessary. Spoon or shaker cup agitation is all that's required for a warming blend of caffeine and blended protein that'll get you going for your date with the gym. The fiber helps keep you feeling full longer, and the essential fatty acids can provide energy for extended endurance training.

Flavor profile: rich, creamy

Use Timing: Pre-Workout, Breakfast

Natural Chocolate Protein Recovery

Directions

- 1) Pour 2 cups (16 ounces) of Chocolate Milk (Deans) into a shaker cup
- 2) Add 1 scoop of Chocolate flavored Gold Standard Natural 100% Casein and 1 scoop of Chocolate flavored Natural Pro Complex®
- 3) Shake in cup until thoroughly mixed

MIXING NOTE: Although this same beverage can be mixed in an electric blender, it isn't necessary. But it might be too thick for a glass and spoon. Shaker cup agitation is the ideal choice for speed, efficiency and convenience. The result is a rich, thick, chocolaty drink that's brimming with fast, intermediate and slowly digesting proteins.

Flavor profile: rich, thick

Use Timing: Post-Workout, Breakfast, Between Meals

Double Berry & Pomegranate Vanilla Whey

Directions

- 1) Combine 4 ounces of water and 4 ounces of pomegranate juice in blender jar.
- 2) Add 1 scoop of Vanilla Ice Cream flavored Gold Standard 100% Whey™
- 3) Wash off ½ cup of fresh blueberries (or use frozen) and add to jar
- 4) Destem and wash ¾ cup of strawberries and add to jar

MIXING NOTE: Cover and blend on 'high' for 5 to 10 seconds before downshifting to a medium speed and then low for about the same amount of time. Adding some ice cubes will have a cooling effect while enhancing the overall texture of this antioxidant-rich recovery shake. It also makes a great pre-workout glycogen top-off shake for cardio day. Add a dash of cinnamon for a thermogenic ingredient that also spices up the taste.

Flavor profile: tangy, smooth

Use Timing: Pre-Workout, Post-Workout, Breakfast, Between Meals

BEYOND SMOOTHIES

Casein Cookie Dough Pudding

Directions

- 1) In a bowl or cup, use a spoon to mix a generous scoop of Cookies And Cream flavored Gold Standard 100% Casein™ with 3 ounces of cold water. Stir until evenly blended and creamy.
- 2) Add a shot of fat-free whipped cream on top if desired.

MIXING NOTE: For a thicker and richer texture and taste, substitute skim milk for water. Placing the mixture in your freezer for 3 to 5 minutes will transform this cookie dough creation into a tempting desert-style pudding.

Flavor profile: thick, creamy

Use Timing: Between Meals, Before Bed

Oats & Whey Banana Muffins

Directions

- 1) In a bowl, combine 1 package of just-add-milk Banana Nut muffin mix with two scoops of Vanilla Bean flavored Natural 100% Oats & Whey
- 2) Add in the ½ Cup of skim milk noted on package directions along with ¾ cup natural cinnamon apple sauce (no sugar added). Beat until creamy.
- 3) Divide mixture between the pre-greased forms of a muffin tin and bake at 425 degrees, per muffin mix directions, until brown on top.

BAKING TIP: This recipe will make 5 medium-sized muffins. When you pull the pan out of the oven, gently push a fork through the top of one muffin. If it comes out clean, the muffins are done. If there's some slimy uncooked residue on the fork, but the pan back in for 5 to 10 more minutes

Flavor profile: moist, chewy

Use Timing: Between Meals, Before Bed