

Client Name _____ Date _____

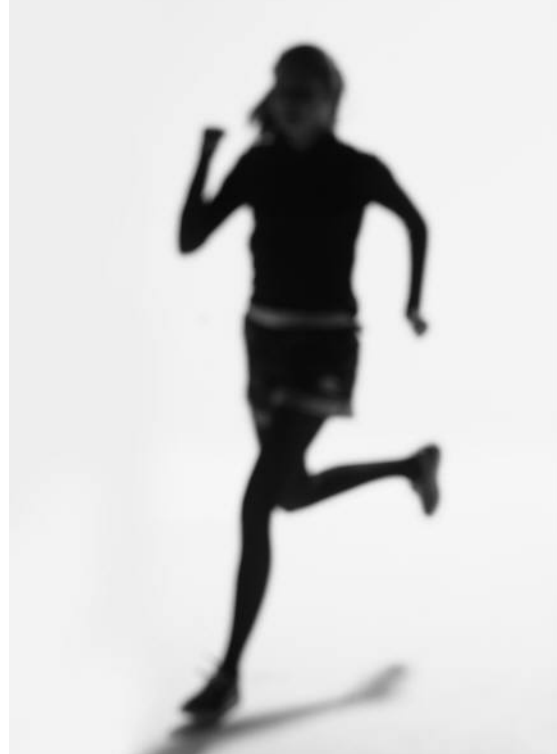
RD/DTR _____

Email _____ Phone _____

Nutrition Therapy for Endurance Athletes

Why Was Nutrition Therapy Prescribed?

With endurance training, the main goal is to provide calories for daily activity and those expended through exercise in addition to replenishing glycogen (energy) stores and repairing lean muscle mass. Focusing on eating often as well as nutrition pre-exercise, during exercise, and post-exercise is key to training and performing at an optimal level.



Meal Planning Tips

- Eat frequent meals and snacks throughout the day
- Do not skip meals
- Include a whole grain carbohydrate and a lean protein/healthy fat with all meals and snacks to increase satiety
- Include non-starchy vegetable and fruits with meals and snacks
- Carbohydrate intake should range from 5 g/kg to 7 g/kg for moderate-duration and low-intensity training, 7 g/kg to 12 g/kg for moderate to heavy training, 10 g/kg to 12 g/kg for extreme training
 - Choose whole, high-fiber grains as your carbohydrate meal choices (breads, bagels, tortillas, cereals, oatmeal, granola bars, crackers, pastas, rice, potatoes, etc.)
- Protein intake should range from 1.2 g/kg to 1.7 g/kg
 - Choose lean proteins such as chicken or turkey without skin, lean cuts of red meat, fish, low-fat dairy, eggs, beans, tofu, edamame, or whey or soy protein powder
- Fat intake should range from 0.8 g/kg to 1.0 g/kg
 - Increase intake of healthy fats (peanut butter, nuts, seeds, flaxseed, olive oil, salmon/tuna) and decrease intake of saturated fats (fried foods, baked/packaged goods, and white, thick, creamy sauces/spreads)
- Hydration should be adequate so that urine color is pale yellow throughout the day
 - Rely on water throughout the day and water/sports drinks during exercise
- Consume post-exercise snack as soon as possible (within 45 minutes) after training
- Limit alcohol intake

Recommended Foods

Pre-Exercise Eating

- Meal timing: 3-4 hours before exercise
- Meal composition: High in low-glycemic carbohydrate (200 g to 300 g) and lean protein, low in fiber and fat
- Meal hydration: Four hours before activity, consume 5 mL/kg to 7 mL/kg (2 mL/lb to 3mL/lb) or 17 oz to 20 oz water or sports drink
- Snack timing: 30 minutes to 1 hour before exercise
- Snack composition: High in carbohydrate, moderate in protein, low in fat and fiber
- Snack hydration: 5 oz to 10 oz water or sports drink

During-Exercise Eating

- Carbohydrate intake should begin shortly after the onset of activity
- Timing: Consume 30 g to 60 g carbohydrate/hr spaced every 15-20 minutes
- Composition: High-glycemic carbohydrate such as sports drinks/gels/blocks/beans, fruit, high-carbohydrate bars with moderate protein, crackers, etc.
- Hydration: Dependent on sweat rate
 - Average: 5 oz to 10 oz water or sports drink every 15-20 minutes
 - Sports drinks should contain 6% to 8% carbohydrate
 - Replace electrolytes lost via sports drink or foods high in sodium/potassium

Post-Exercise Eating

- Snack timing: Within 30 minutes post-exercise
- Snack composition: 4:1 ratio of high-glycemic carbohydrate to lean protein
 - Recommended amount: 1.0 g to 1.5 g carbohydrate/kg
- Meal timing: 2 hours after exercise (Continue meals in 2-hour intervals up to 6 hours)
- Meal composition: High in low- to moderate-glycemic carbohydrate and lean protein, low in fiber and fat
 - Recommended amount: 1.0 g to 1.5 g carbohydrate/kg
- Hydration: 16 oz to 24 oz water or sports drink for every pound lost during exercise

Notes:

Foods Not Recommended

Pre-Exercise

- High-fat foods (high-fat meats, heavy sauces/creams, fried foods, buttery foods, desserts)
- High-fiber foods (cruciferous vegetables, whole grains extremely high in fiber, beans)
- Carbonated beverages
- Sugary beverages
- Alcohol

During Exercise

- Low-glycemic carbohydrates (high-fiber whole grains)
- High-fiber foods (cruciferous vegetables, whole grains extremely high in fiber, beans)
- High-protein foods (meats, dairy, high-protein energy bars)
- High-fat foods (high fat meats, heavy sauces/creams, fried foods, buttery foods, desserts, large quantities of nut butters, nuts, seeds)
- Fluids containing more than 8% carbohydrate (juice, soda, sweet tea, energy drinks, etc.)
- Alcohol

Post-Exercise

- High-fiber foods (cruciferous vegetables, whole grains extremely high in fiber, beans)
- High-fat foods (high-fat meats, heavy sauces/creams, fried foods, buttery foods, desserts, large quantities of nut butters, nuts, seeds)
- Fluids containing more than 8% carbohydrate (juice, soda, sweet tea, energy drinks, etc.)
- Alcohol

Notes:

Sample 1-Day Menu

(2,500 calories, 60% carbohydrate, 20% protein, 20% fat)

Meal	Menu
Breakfast (500 calories)	¾ cup low-fat cottage cheese with 2 cups chopped fruit 1 slice whole wheat toast with 1 Tbsp peanut butter and 1 Tbsp honey
Snack (250-300 calories)	Sweet-n-Salty granola bar ½ scoop whey protein powder in 8 oz 1% milk 1 fruit
Lunch (500 calories)	Sandwich on whole wheat bread w/ 1 slice 2% cheese, 3 oz meat, lettuce, tomato, 1 Tbsp light sauce 15 whole wheat crackers <i>or</i> pretzels 1 fat-free Greek yogurt 1 small fruit
Pre-Workout Snack (300 calories)	1 serving reduced-fat crackers 1 serving 2% string cheese 1 light yogurt mixed with ¼ cup whole grain cereal
Post-Workout Snack (300 calories)	16 oz 1% chocolate milk
Dinner (500 calories)	1 cup pasta w/ marinara sauce and 3 oz chicken breast 2 cups grilled vegetables 1 wheat roll <i>or</i> 2" x 2" piece cornbread
Snack (150 calories)	1 fat-free vanilla pudding Mix in 1 cup berries and 1 Tbsp nuts

Notes:

Sample 1 – Day Menu

(4,500 calories, 60% carbohydrate, 20% protein, 20% fat)

Meal	Menu
Pre-Workout Snack (200-250 calories)	200-250 calorie energy bar (4:1 ratio of carbohydrates to protein)
Breakfast (1000-1100 calories)	1 whole wheat bagel with 2 Tbsp peanut butter and 2 Tbsp jelly 3-5 scrambled egg whites 24 oz cappuccino
Snack (300-400 calories)	<u>Shake</u> 4 oz 1% milk 8 oz orange juice 1 banana 1¼ scoop whey protein powder
Lunch (800-900 calories)	<u>BBQ</u> 5-6 oz lean beef, turkey, chicken 1 cup beans 1 cup corn Salad with dressing on side <i>or</i> 1 cup green veggie 2 rolls <i>or</i> 2 slices bread
Snack (450-500 calories)	2 oz turkey jerky 1 banana 15 almonds and 3 Tbsp dried fruit
Dinner (800-900 calories)	<i>Breakfast for dinner</i> Omelet made with: 2 eggs plus 4 egg whites, ¼ cup 2% grated cheese, non-starchy vegetables of choice-cook w/cooking spray 3 oz lean ham plain <i>or</i> in omelet 3 slices whole wheat toast with 1 Tbsp all-natural jelly on each slice 1½ cups chopped fruit
Snack (250-400 calories)	1 pack peanut butter crackers 1 scoop whey protein in 4 oz 1% milk and 4 oz water

Notes: