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To Eat or Not to Eat: The Truth Behind Exercising on an Empty Stomach

Even today, there are still many aspects of diet, exercise, and weight that remain controversial. Some health professionals believe that it is all about what is put on your plate that determines the number on the scale whereas others are more prone to rely on physical activity to keep the pounds at bay. The reality is that whether you are looking to manage weight or maximize athletic performance, the key is in balancing both diet and exercise, especially when fueling with food before a workout.

Among others, Bill Phillips, a former competitive bodybuilder and author of "Body for Life" has argued that performing cardiovascular exercise on an empty stomach will force the body to use stored fat rather than burning available carbohydrates. The reasoning may sound convincing, but in fact, recent research has found that the opposite is true.

A review published by Brad Schoenfeld in the February 2011 issue of the *Strength and Conditioning Journal* states that although overnight fasting for greater results may sound like a tempting idea, the science just doesn't support the theory (4).

All Fat Burn is Not Equal

The reaction of the human body to a workout is affected by a multitude of factors. Fuel is certainly one of them, but Schoenfeld also lists hormone secretions, transcription factors, and enzyme activity as potential limiting factors in fat burn during exercise (4). Additionally, fat burn during exercise alone is not indicative of fat burn over the course of a longer period. Based on the outcomes of prior studies, Schoenfeld explains that although the blood flow to fat tissue is lower during high-intensity exercise, those who engage in high-intensity versus moderate-intensity exercise experience greater fat loss over time, meaning that

the immediate effect during the training period is less important than how your body sustains that burn.

Fasting and Fat Oxidation

Although previous studies have found that the breakdown of fatty acids is greater in fasting individuals performing low-intensity activities for a long period of time, no differences have been found in individuals performing moderate-intensity activities (1). Additionally, Schoenfeld discusses a study in which endurance-trained athletes cycled after being given a placebo, a placebo and a carbohydrate drink, or only a carbohydrate drink with variations on the timing before or during exercise. The study found no difference in impaired fat oxidation between the carbohydrate and placebo-fed groups (1). Together, these findings demonstrate that consuming a carbohydrate-rich meal before exercise will not impair the breakdown of fat. The increase of carbohydrate intake before an event, known as carbohydrate loading, is known to increase the stores of muscle glycogen, and potentially lead to increased athletic performance. However, this is only seen in activities greater than 90 min in duration. According to research, unless exercising for more than 90 min at a continued low-intensity, fasting will not lead to greater fat oxidation (5).

Quality Food is Fuel

Additional research has found that it isn't just when you eat, but what you eat that can affect the quality of your workout. Research found that individuals given lentils, a low-glycemic index food, experienced enhanced endurance running capacity when compared to individuals given potatoes, a high-glycemic index food or a placebo (2).

Table 1: Sample Meals

| Breakfast | Lunch | Dinner | Snack |
|--|---|--|--|
| 2 pieces whole wheat toast, 2 Tbsp Peanut Butter + ½ banana | Amy's Brown Rice and Vegetable Stir Fry Bowl + ½ cup low-fat yogurt and ¼ cup mixed berries | 1 ½ cups Whole wheat penne, 1 can white tuna packed in water, 1 cup spinach + ½ cup grape tomatoes | 1 cup lentil soup with 1 Tbsp low-fat sour cream |
| 1 cup oatmeal topped with 1 Tbsp raisins and 5 sliced strawberries | 2 slices whole wheat bread, 3 oz deli turkey, ¼ avocado + Clementine/ orange | 3 Whole wheat tortillas, 4 oz grilled chicken, ½ cup black beans and ¼ salsa—Make 3 individual soft tacos and top with sliced black olives | 1 small whole wheat wrap spread with 1 Tbsp almond butter and 1 Tbsp sunflower seeds |

Sample Meals for Fueling a Successful Workout

The key to a beneficial pre-exercise or pre-event meal is finding something that works well for you. Try some of the sample breakfasts, lunches, dinners and snacks in Table 1 to see which gives you the most energy and the least amount of discomfort during activity.

Exercise on an Empty Stomach Will Only Slow You Down

In order to fuel a workout properly, your body needs proper nutrition. A focus on what goes into your body before exercise can lead to enhanced performance during exercise. A healthy, high-carbohydrate meal eaten prior to exercise is important to ensuring that you reach your athletic goals (3). Make sure you leave enough time for digestion after a meal in order to strike a balance between feeling energized versus weighted down. Finally, understand that the best way to fuel is different for every athlete. For some, a larger meal 2 – 3 hr before sustained activity is best whereas for others, a smaller meal 30 min before is more effective (3). The key to optimal performance is to find just what food combinations work best for you. ■

References

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