

Raising the Energy Bar

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When was the last time you ventured near the health food aisles in your local grocery store? If you were drawn toward those enticing shelves recently you most likely found a section overflowing with bars of every shape size and color. If you were to stop in this section to look around how do you even begin sort through the hundreds of choices to decide which bar is right for you, and are they even worth the effort? Sports nutrition supplementation is an overwhelmingly popular market; there is huge competition to produce the newest, most popular drink, bar, gel, shot, Blok, tablet, or powder. With so many choices how do figure out which one suits your nutritional needs?

When hunting for nutrient supplements and ergogenic aids it is important to remember that these are manufactured food products and they should never be replacements for food groups in your diet. A good rule is to

make sure that a variety of whole natural foods make-up your balanced diet.

While bars can provide healthy snack options or occasional meal replacement they should not be used consistently to fulfill core nutritional needs. Another important rule to follow is to make sure that you are ingesting a sufficient amount of water when refueling with energy bars. In general try to consume 12-16 ounces of water with the energy bar of your choice, especially while exercising.

Are all bars equal? This question has been researched on a number of occasions and the answer appears to be no. According to a study published in the *Journal of Strength and Conditioning Research* the Access bar which claimed specifically to increase aerobic endurance performance had no impact on blood lactate or perceived exhaustion. Blood lactate and exertion levels were measured periodically in twelve healthy runners, during five separate 60 minute self-paced treadmill runs. During the control trials the runners ingested a muesli bar substitute, which contained the same carbohydrate content, or were given fluid replacement alone with no carbohydrate replenishment. The results of the trials showed no significant change in performance of the runners when the Access bar was used as the carbohydrate fuel source during exercise. Other studies such as one published in the *Journal of Applied Physiology* have shown that carbohydrate feeding prior to endurance events will increase performance capabilities, if the right energy bar is chosen.

Glycemic index (GI) is important to keep in mind while sorting through your energy bar options. This index is a rating scale for the

physiological response to metabolizing a food item. The glycemic index measures the change in blood sugar levels post food consumption. The slower a food is digested the lower the index number that food item will have, as blood glucose levels should remain constant. The highest number on the glycemic index scale is 100, which is the number assigned to white bread as it is a simple, quickly digested food. The index is used to determine how quickly your body will be able to use the food source to replenish carbohydrate stores in your muscles which are depleted by exercise.

According to a study done on athlete's responses to varying glycemic indices at the Gatorade Sports Science Institute and an article published in *Runner's World*, it is wise to choose the composition of the bar with the timing of ingestion and exercise. On the day before to an endurance event it is more important to consume moderate (GI 60-85) to low (GI < 60) GI foods. Slow digestion may help promote carbohydrate storage as muscle glycogen can be used as fuel during the upcoming exercise event. On the other hand during competition high-carbohydrate, high (GI > 85) GI foods should be consumed to promote rapid carbohydrate replacement. Elizabeth Applegate, PhD. recommends

in her work, published in the *Journal of Nutrition*, to choose a bar with around 25 grams of carbohydrates and less than 15 grams of protein, for fuel source before or during an endurance event. *Exercise Physiology* written by Plowman and Smith recommends that high carbohydrate bars are best for before and during exercise, as well as for post-exercise recovery. Bars high in fat are a poor choice during exercise because they slow digestion and could upset your stomach. Look for a bar with 4 grams of fat or less, and 8-10 grams of protein or less. Bars with higher fat and protein content are digested more slowly and are better as dietary supplements; they should be used as meal replacement or snack bars. Fiber content is another factor to be wary of for an exercise fuel replacement. High fiber bars are a good choice between meals because slowed digestion may offset hunger, but a bar with more than 5 grams of fiber is wise to avoid during an exercise bout.

Energy bars can be great fuel sources during long bouts of exercise or as a nutritious snack in between meals. Always read nutrition labels, and follow these guidelines to promote quick carbohydrate replacement during your exercise event, and an efficient recovery.

Bar:	Carbohydrate Content (g):	Fat Content (g):	Protein Content (g):	Fiber Content (g):
Balance Bar™ (almond brownie):	22	6	15	1
Clif Bar (peanut butter):	45	4	10	4
Clif Luna (chocolate pecan pie):	24	5	10	1
Power Bar (chocolate):	42	2	10	3
Power Bar Protein Plus™:	15	8	32	1
Met-Rx Bar (fudge brownie):	48	2.5	27	2

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