



Nutrition and Sports - By Sofia Abdelkafi. Dt.P

No one out there doubts the benefits of sports! However, did you know that intense physical exertion of more than 45 minutes can result in dehydration, hypoglycemia and fatigue? This article will briefly shed light on food choices intended to optimize endurance and physical performance, and also control food cravings that can, in some cases, arise after physical exertion.



Energy: The best source of energy for muscles is carbohydrates, which are digested in glucose and circulate in the blood, affecting the blood-sugar level (glycemia). The glycemic index (GI) itself describes the speed at which food raises the level of sugar in the blood. As a result, the higher the GI, the faster the sugar in the food is absorbed and the faster the glucose that it contains will be available for the muscle.

Pre-exertion: The meal consumed prior to training aims mainly to store energy. Engaging in physical exercise on an empty stomach should be avoided, however, eating too hearty a meal should also be avoided because the energy is then spent on digestion.

2-4 hours before exertion: choose low-GI foods, avoid foods with a high fat content, and make sure you consume a reasonable quantity of protein without going overboard.

30 minutes before exertion: Consume a high-GI food (e.g., 1 cup of fruit juice).

During exertion: If your physical activity lasts 45 minutes-1 hour or less, your main concern is making sure to stay well hydrated with water.

If the physical activity is intense and lasts more than one hour, you must consume high-GI foods to avoid slumps in energy level. However, the quantity of carbohydrates must be monitored, because too great a quantity can slow absorption. See the following recipe:

Recipe for a homemade energy drink:

(2 litres)

750 ml of grape juice (or 850 ml of pineapple juice or 1 litre of apple juice or 1.25 litre of orange juice) + 3 ml of salt + the remainder of the bottle in water.

Post-exertion: When the training is intense or lasts one hour or longer, the body needs to replenish itself in minerals (sodium and potassium) within the half hour following training. To accomplish this, a snack rich in protein and carbohydrates is highly recommended because the body must renew its glucose reserves and because protein will help the muscles to regenerate. An example of a snack: a small handful of nuts (also contains sodium) and a piece of fruit (also contains potassium).

Low-GI foods: legumes (chick peas, lentils, dry beans, etc.), Plain yogurt, milk, soy beverages, cherries. Grapefruit, strawberries, raspberries, blackberries, plums, apples, oranges, pears, nectarines, peaches, dried apricots, prunes, sweet potato, all nuts and whole-wheat and whole-grain grain products.

High-GI foods: refined grain products, potatoes, corn, peas, cooked carrots, watermelon, cantaloupe, honeydew melon, pineapple, bananas, most dried fruits, soy-based desserts, and concentrated sugars (e.g.: honey).

If you engage in extensive physical activities, it would be interesting to evaluate your macronutrient input (protein, carbohydrates, and lipids). Evaluating your energy expenditure would result in a better evaluation of your macronutrient input.

The Mansfield Athletic Club offers the BodyBugg system, which is a highly accurate calculator of your energy expenditure. For more information, contact Nabil at the Mansfield Health Clinic.



Study suggests explanation for these practices' health benefits

Researchers say they've taken a significant stride forward in understanding how relaxation techniques such as meditation, prayer and yoga improve health: by changing patterns of gene activity that affect how the body responds to stress.

The changes were seen both in long-term practitioners and in newer recruits, the scientists said.

"It's not all in your head," said Dr. Herbert Benson, president emeritus of the Benson-Henry Institute for Mind/Body Medicine at Massachusetts General Hospital and an associate professor of medicine at Harvard Medical School. "What we have found is that when you evoke the relaxation response, the very genes that are turned on or off by stress are turned the other way. The mind can actively turn on and turn off genes. The mind is not separated from the body.

One outside expert agreed.

"It's sort of like reverse thinking: If you can wreak havoc on yourself with lifestyle choices, for example, [in a way that] causes expression of latent genetic manifestations in the negative, then the reverse should hold

true," said Dr. Gerry Leisman, director of the F.R. Carrick Institute for Clinical Ergonomics, Rehabilitation and Applied Neuroscience at Leeds Metropolitan University in the U.K.

"Biology is not entirely our destiny, so while there are things that give us risk factors, there's a lot of 'wiggle' in this," added Leisman, who is also a professor at the University of Haifa in Israel. "This paper is pointing that there is a technique that allows us to play with the wiggle.

"Benson, a pioneer in the field of mind-body medicine, is co-senior author of the new study, which is published in the journal PLoS One.

Benson first described the relaxation response, 35 years ago. Mind-body approaches that elicit the response include meditation, repetitive prayer, yoga, tai chi, breathing exercises, progressive muscle relaxation, biofeedback, guided imagery and Qi Gong.

"Previously, we had noted that there were scores of diseases that could be treated by eliciting the relaxation response -- everything from different kinds of pain, infertility, rheumatoid arthritis, insomnia," Benson said.

He believes that this study is the first comprehensive look at how mind states can affect gene expression. It also focuses on gene activity in healthy individuals.

Benson and his colleagues compared gene-expression patterns in 19 long-term practitioners, 19 healthy controls and 20 newcomers who underwent eight weeks of relaxation-response training.



More than 2,200 genes were activated differently in the long-time practitioners relative to the controls and 1,561 genes in the short-timers compared to the long-time practitioners. Some 433 of the differently activated genes were shared among short-term and long-term practitioners.

Further genetic analysis revealed changes in cellular metabolism, response to oxidative stress and other processes in both short and long-term practitioners. All of these processes may contribute to cellular damage stemming from chronic stress.

Another expert had a mixed response to the findings.

Robert Schwartz, director of the Texas A&M Health Science Center's Institute of Biosciences and Technology in Houston, noted that the study was relatively small. He also wished that there had been more data on the levels of stress hormones within the control group, for comparison purposes.

However, Schwartz called the study "unique and very exciting. It demonstrates that all these techniques of relaxation response have a biofeedback mechanism that alters gene expression."

He pointed out that the researchers looked at blood cells, which consist largely of immune cells. "You're getting the response most probably in the immune cell population," Schwartz said.

"We all are under stress and have many manifestations of that stress," Benson added. "To adequately protect ourselves against stress, we should use an approach and a technique that we believe evokes the relaxation response 20 minutes, once a day."





The Mansfield Health Clinic is Proud to Announce the Canadian Launch of Bodybugg

With its sleek design and cutting edge technology, Bodybugg is the ultimate device for healthy weight management. The device is small and discreetly straps to the upper arm where sensors accurately measure the calories you are burning at various levels of activity, your skin temperature and how much you are sweating during exercise.

This tool and its web-based platform are universal; if you are looking to reach and maintain a healthy body weight, you get there by learning about your body: your daily caloric intake and output. This surplus or deficit is

what will guide the user in adjusting his/her diet and work-out regimen.

Bodybugg also acts as a pedometer, so even if your goal isn't weight loss, but rather general fitness, you can eat and train to your maximum potential. Work-out at peak calorie burning times; eat when your metabolism is at its most efficient.

The Bodybugg program includes sessions with a certified Fit-Pro trainer to establish your goals and create the ideal program for you.

For more information, please contact the Mansfield Health Clinic at 514-390-1230 or visit www.bodybugg.com.

Ask the Expert

Q: *I am working very hard towards losing 30lbs and am doing cardio training (running/biking for 45mins x 4 days week) along with proper dieting (carbs from veggies, whole grains, increased protein intake).*

I have limited time for weight training and try to get to the gym 2-3 times/week.

I've been doing chest, back and shoulders of 3 x 6, arms 3x 8 and legs 3 x 10 in an effort to maintain my strength.

It feels like it's working but I'm not sure if this is the right approach.

Please advise.

Cameron

A: You definitely have the basic ingredients for success in order to reach your goals. By incorporating a proper nutritional plan with strength and cardiovascular exercises, your approach is guaranteed to succeed, if you can fine tune each one of these basic departments of your lifestyle.

First, let's talk about your nutrition. It's absolutely the first aspect of your life that you need to nail and from what you write, you seem to understand the basics: At all times, you must be aware of the quality and the quantity of food you are ingesting. You must aim to eat as naturally as possible, since we still have the same digestive system as our ancestors from more than 15 000 years ago, and they didn't have processed food!

The Body doesn't need a lot of food at a time to get energy. The body stores the extras as fat. You should always control your portions so you never feel full after a meal. The frequency

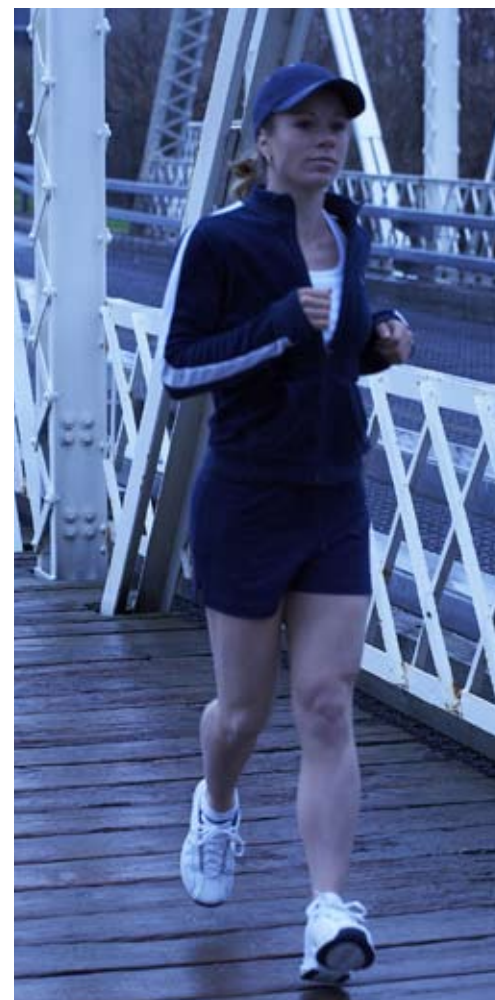
of your meals is just as crucial because it could be a double edge sword. If you eat too often, there's a risk that you eat too much and pack on extra calories. If you don't eat often enough, your body perceives it as fasting and then slows down your metabolism and then when you actually eat a meal, it stores the rare food you're giving it more easily. The idea is to eat approx. 6 small meals every 2 ½ hours.

Nutrition alone is proven to be less effective than when you incorporate exercise in your weekly schedule. Cardio and strength training is essential. To be able to benefit fully of your time spent doing cardio, you should train at the right intensity. Since your goal is to lose fat, a test done in a laboratory could determine at which exact intensity your body is using fat as fuel during exercise. It's not a fluke that we have such a lab within our Mansfield Club. It's because we know how the body works. This test will help you to make sure that you always train at the proper intensity instead of the grey area of doubts.

AS for the strength exercises, you must make sure that you target all muscle groups and that you change variables of your training plan every 4 weeks. The human body is a wonderful machine and it can adapt pretty much to any stimulus that we give it. For this reason, in order to reap all the benefits of your time spent in the gym, change variables of your routine often, for example, the tempo of each rep, the number of reps, the number of sets, the order of exercises or completely change the exercises. This way, your body won't have the time to adapt and you'll keep progressing towards your goal.

Thank you for writing us,. Good luck in your quest to reach your goal. Passion, determination and patience are the key.

Steve Prud'Homme
Fitness Director, Peak Centre Director



Master a Full-Body Workout—Fast! - By Steve Calechman

Five moves for a total-body workout

If you're pressed for time, do these five exercises for a 30-minute workout.

Get faster on the court

Leg lunges target every lower-body muscle, as well as your back and core areas. Hold dumbbells and lunge forward, as shown. Start by bending your back knee, and let the rest of your body follow its motion. Keep your upper body still with your shoulders back, chest out, and abs tight. Do two to three sets of 12 to 15 reps with each leg.

Build strong arms—the easy way

Weighted rows won't only build a sexy, defined back; they can sculpt great-looking arms. Using a V-bar on a cable, squat down until you're nearly in a sitting position. Pull the bar toward you (using your back muscles) to just below your sternum. Do two to three sets of 12 to 15 reps.

Bogart the cable machine

Grab the cables and lean in slightly while standing. Press the handles out in front of you, as if you were doing a chest press. The cables will work your balance and core muscles, along with your triceps and deltoids. Do two or three sets of 12 to 15 reps.

Shoulder the burden

To help you stand and sit taller, strengthen your rear deltoids and trapezius muscles. Sit on the edge of a bench with your knees together. Lean forward so your chest rests on your legs. Raise dumbbells laterally to shoulder level. Pause, then lower them slowly. Do two to three sets of 12 to 15 reps.

Leg it out

Clock lunges build muscles that help make quick left-right cuts during sports. Holding light dumbbells in your hands, lunge with your left leg to the top of the clock (12), then

come back to starting position and go out to 9. Go back to 6 with each leg and continue with your right leg to 3 and 12. Complete five circles.

Source: U24, used with permission.



Train for a half marathon - By Mark Harrison

Half-marathons are becoming the new standard. Here's how to train:

If you don't have the time—or the tendons—to slip in a 20-miler most Saturdays, yet you crave a distance-running goal that merits some serious water-cooler commendation, why not try the half—as in half-marathon? It's right for you if you're ready to move beyond the 10-K but aren't driven to the rigors of the full 26-mile marathon.

In the last decade, participation in U.S. half-marathons has risen more than 50 percent, according to Running USA, a leading industry association. At 13.1 miles, it's a worthy challenge. "It's one that'll seriously boost your fitness level," and your bragging rights. "But unlike training for a full marathon, it isn't a commitment that will take over your life," says Doris Dodge, a master instructor in group exercise at the Lakeshore Towers 24 Hour Fitness in Orange County, California.

Your first step: Consult a Mansfield trainer for a running plan tailored to your experience and workout schedule. Dodge, who has trained competitive runners for 4 years, recommends running 6 to 10 miles over 2 to 3 days a week—including one tempo run and one speedwork session—plus one longer weekend run. On Dodge's plan, beginners can be ready in about 3 months, veteran runners in about 6 weeks. Here's how.

Tempo runs

Why: Allows your body to grow comfortable running the pace, or tempo, at which you plan to run the half.

What: Do one 3- to 6-mile tempo run each week.

How: Talk with your trainer to settle on a realistic goal race pace. To practice it, run on

a treadmill at that pace for 3 miles. Lengthen your workout as your fitness improves, and take it outside to better mimic actual race conditions.

Speedwork

Why: Improves your speed by teaching your muscles to run faster.

What: Do a 1 to 4-mile speed workout each week.

How: Find a 400-meter outdoor track (most middle and high schools have them). Walk two laps (half-mile) to warm up, then do 4 x 400 meters at faster than race pace. Jog 200 meters in between (so your total is 2 miles). Add more 400s as your fitness improves. Stop doing speedwork 2 weeks before the race to make sure your muscles are rested.

Long runs

Why: Helps your body adapt to the sustained impact of running 13 miles and your mind grow accustomed to going long.

What: Do a long run every Saturday or Sunday morning.

How: Begin with 3 miles, adding 1 mile each week until you reach 10 to 12 miles. Run at a comfortable pace, meaning any pace you can sustain for the distance. Your longest run should take place 2 weeks before race day.

Source: U24, used with permission.

