



## STRESS & SUSTAINING FOODS

### Stress Defined

The stress we refer to here is a condition in which the body must adapt to changing conditions. Traffic, deadlines, arguments, taxing relationships and over-packed schedules are just a few examples of potential stressors. Recognize that any situation can be a source of “stress”. It depends upon how you perceive it and how you choose to react to it.

The body generally responds to stress by releasing adrenaline and other similar stress hormones. This results in an increased heart rate, higher blood pressure (arteries are constricted), altered brain activity, faster blood clotting, elevated blood lipids and other metabolic changes. The body, physiologically, is preparing for a physical fight. When we don't take action or deal appropriately with the stress, there is more potential for health problems. Nutrition becomes a critical player in the body's ability to deal with the stress. Prolonged, uninterrupted, unexpected and unmanageable forms of stress can do the most damage to us, both emotionally and physically.

### How Nutrients are Used Differently During Stress

1. Carbohydrates (carbs) supplied by the diet are used for energy. Proteins from the diet are targeted to be used for the maintenance and growth of body tissue/ cells. Prolonged stress accelerates the body's use of proteins, fats and carbs. The result can be higher blood sugar and free fatty acids. Also, protein loss can lead to higher insulin levels (increasing fat stores and diabetes risk), as well as, increased circulating triglycerides and cholesterol and negative nitrogen balance from protein depletion.
2. The stress-induced metabolic rate can also cause an increase in the use and excretion of many nutrients, including vitamins A,C,D,E,K, and B complex, as well as, minerals calcium, magnesium, phosphorus, chromium, selenium, zinc and potassium. Elevated potassium excretion is typically indicative of an elevated muscle tissue breakdown.

### Caffeine and Stress

We are all familiar with the solution of caffeine as a way to pep us up or keep us going during the periods of the day and night when our body says “sleep” and our schedule says “think”. Coffee is now available in a great variety of flavors and types. Enjoying coffee has been elevated as a social “experience” that people are willing to pay for.

Consuming caffeinated coffee, tea, sodas, “energy drinks”, hot chocolate and chocolate munchies are all ways to increase our alertness in the short term. Caffeine is a central nervous system stimulant. Some of caffeine's known physiological effects include:

- An increased flow of oxygen and nutrients to the brain and muscles.
- An increase in the heart rate.
- Lipolysis (releasing glycerol and fatty acids into the blood to be used as fuel for muscles).
- An increase in gastric acid secretion (this can aggravate a stomach ulcer condition).
- An increased urine output.
- Relaxation of smooth muscles, primarily in the bronchi, and can ease asthma symptoms.

Too Much of a Good Thing? Over extended periods of time, overuse of caffeine can result in the following:

- Nervousness, irritability and increased anxiety
- Muscle twitching, headaches, insomnia
- Heart palpitations and respiratory alkalosis
- Stomach ulcers and GERD (Gastroesophageal Reflux Disease)
- Caffeine Intoxication (see Wikipedia details at site under Information Sources)

### **Stress Medicine**

- Exercise and Physical Play
- Sleep
- Well-Balanced Meals
- Regularly Scheduled Meals
- Laughter and Friendships
- Journaling and Reflection
- Hobbies
- Volunteer Work

### **Stress-Diet Recommendations**

This is the time when you will benefit the most from selecting and eating foods which reflect the My Pyramid Dietary Food Guidelines. Eating foods rich in vitamins, minerals and known phytonutrients is a smart plan. This is **not** the time to skip meals or fill up with the typical high salt/ sugar/ fat snacks. Poor nutrition, of itself, places the body under stress. “Junk Food” can cause undesired weight gain while dropping your energy and nutrient levels. Look for fresh fruits, raw and steamed vegetables, whole grains, and lean meats. Try yogurt if milk seems to cause any digestive problems, but don’t assume it will. When eating desserts, eat small portions at the end of your meal.... milk and a thin slice of chocolate cake can be a small oasis in the sea of compulsory exercises.

If your gastrointestinal (GI) tract is rebelling with diarrhea, remember to replace lost fluids with water. This may be the time to temporarily eat lower fiber foods such as white steamed rice. Slow down after a meal and allow it to digest. Sources of caffeine will likely aggravate your symptoms and should be avoided until your GI tract calms down.

Engage in a brisk walk or some other form of physical work-out prior to a meal, and then make that meal last for at least 30 minutes, so that your body has a chance to start digesting your meal to maximize the available nutrients to your muscles and brain. Take that meal break to relax your mind, as well. Instead of feeding a depressed mood with sugary, high fat foods, munch on whole grains, fruits and vegetables. Don’t knock it until you’ve given it a fair trial!

### **Summary of Suggestions**

- Don’t skip breakfast (and, by the way, coffee does not equal breakfast!). Include a whole grain that will stick with you. Fruit smoothies can be an option for a quick breakfast when it includes fruit and yogurt or milk.
- Limit your caffeine intake. Use decaffeinated beverages at night. Prioritize your sleep needs.
- Limit your consumption of sweets. Fresh fruits are a good source of simple sugars that will energize you while supplying soluble fiber and a great source of nutrients.

- Don't cut out your exercise routine. Include a brisk walk or bike ride even when there is a time crunch. Jogging, cycling, swimming, dancing, racket sports and aerobic classes are all good options.
- Eat a balanced snack or meal every 3-5 hours.
- Find time for friends and relaxing music.
- Make some quiet, relaxing time to focus on what really matters in your life.
- Tackle your most dreaded work first. It's amazing how everything else will become easier and your stress will be replaced by a sense of accomplishment.

### **“On the Go” Nourishment Tips**

When your days are fully scheduled with errands, appointments, classes and work, nourishing meals are often eliminated. Despite the lack of time, hunger will still present itself. The need for a break exists and, of course, the body's need for nutrients is there. The more stressed your body and psyche are, the more your body craves supportive nutrients. So, what are some practical ideas that can work for you when you are tempted to keep pushing without stopping to refuel your engines?

- **Plan ahead, and Pack it!** Have an inexpensive insulated “go” container which can keep foods like yogurt, sandwiches, fresh fruit, milk, fresh vegetables/ salads and microwave-ready containers of leftovers chilled. Foods really need to be maintained below 41°F to maintain food safety.
- **Choose a nutritious, delicious food from a reputable convenience store or vending machine.**

### **Take Along Food Ideas**

#### Calcium and/ or protein-rich options:

- Mozzarella cheese sticks or other low fat cheese
- Containers of low fat milk, yogurt or yogurt drinks (check to make sure the yogurt product is not overloaded with added sugar)
- Lean sandwich meats or beef jerky

#### Lower sugar, nutrient-rich carbs:

- Vegetable or tomato soups with pop-tops
- Vegetable juices (beware of high sodium content)
- Fresh vegetable salads with low-calorie dressing and packages of baby carrots, broccoli florets or celery
- Whole grain, lower sugar crackers or cereal bars, baked chips, low fat popcorn, animal crackers or fig cookies (remember to **steer clear of products with hydrogenated oils** to keep *trans* fat intake low)
- Fresh fruit, fruit salads, fruit cups or 100% fruit juice

### **Additional Reading & Resources**

- <http://www.eatright.org>
- <http://www.nutrition4texas.org>
- [http://en.wikipedia.org/wiki/Caffeine#Mechanism\\_of\\_action](http://en.wikipedia.org/wiki/Caffeine#Mechanism_of_action)
- <http://www.medterms.com/script/main/art.asp?articlekey=20104>
- <http://www.mypyramid.gov/guidelines/index.html>
- [http://www.helpguide.org/mental/stress\\_signs.htm](http://www.helpguide.org/mental/stress_signs.htm)
- <http://www.clevelandclinic.org/health/health-info/docs/0300/0366.asp>
- <http://www.health.umd.edu/fsap/stress.html>
- <http://www.fitwoman.com/fitbriefings/stress.shtml>
- <http://www.medicinenet.com/script/main/art.asp?articlekey=53304>
- <http://lifestylelaboratory.com/articles/stress-effects-nutrition.html>