



STRESS & VIRTUAL REALITY

Ask Your Pharmacist

As a nation, we have excelled in developing some incredible ways of making life easier, faster and more efficient. While new technology enables us to pack more into our day, it has led us to a point where we are now so overwhelmed by technology that it is making us more and more stress prone. Many of our stress-related problems are worsened by the intense speed at which modern technology drives us, and by our growing dependence on media stimulation.

In a society where computers wait for us at every corner, scientists have already published a significant body of research on the stress induced by the high demand to respond to e-mails. Now, even our solutions to relieve stress are pervaded by technology. In a crowded gym, we cannot do without an iPod, and now we need gadgets to help us meditate. To cap it all we now have stress-reducing virtual reality programs which are touted to help produce scenarios that are supposed to be more vivid and real than what we can create through our own imagination (August '07 issue of the International Journal of Stress Management). Do we really need gadgets to get in touch with our bodies and to achieve a state of inner calm through artificial experience via a machine?

Living in modern society makes it difficult, if not impossible, to avoid stress-provoking events. It is therefore important to find methods for relieving and managing stress. It is time to go back to the basics - to the simple pleasures of basic physical existence rather than spending a high percentage of our time in virtual reality.

Stress is a bodily response to any actual or perceived change. Some changes are more stressful than others. Examples of strong stress changes include death of a spouse or family member, loss of job, change in marital status, legal trouble, or serious personal injury. Minor stress provoking events include new work projects, holiday activities, and managing a busy schedule.

How does the body respond to stress?

When a change is anticipated, the body prepares itself for action, a process known as the "fight or flight" response. Adrenaline (a hormone secreted from the adrenal gland) is released into the bloodstream, causing a variety of effects, including increased breathing rate, shallow breaths, increased blood pressure, increased heart rate, increased sweating, and increased blood sugar levels. The brain becomes active and alert, thereby decreasing the ability to sleep. The stress response also reduces saliva production and slows or stops the digestive

process.

Why is stress useful?

On an evolutionary basis, this "fight or flight" stress response enables people to become faster, stronger, more alert, and more efficient than when at rest. Modern day humans also benefit from the stress response; narrowly avoiding a car accident, surviving a natural disaster, even cooking a meal for unexpected guests. A healthy response to these events could not be possible without stress.

How can we reduce stress?

Stress relievers include meditation, prayer, yoga, reading an enjoyable book, regular practice of a favorite hobby, and establishment of a personal support system (family and friends). Stress managers help the body cope with stress, and include exercise, a healthy diet, and proper amounts of sleep (usually 8 or more hours).

Stress relievers and managers are both equally important for preventing chronic stress. Stress relievers act primarily to calm the mind, thereby also calming the body and removing the "fight or flight" response. Stress managers help the body overcome the harmful effects of stress by keeping the immune system healthy, removing toxins (free oxygen radicals, and other metabolic products of stress), and promoting proper function of all cells and organs.

When does stress become harmful?

Stress should not become a way of life. It is merely a tool that the body uses occasionally. If the stress response is constantly active, the effects of this response are also magnified. The direct results of chronic stress therefore include high blood pressure (hypertension), insomnia, and gastrointestinal disorders (like indigestion, heartburn, and peptic ulcer).

Because the body is not equipped to deal with such conditions, the immune system also suffers, causing decreased immune function and susceptibility to infection. Chronic stress also brings fatigue, muscle aches, headache, and lack of concentration.

During times of high stress, eating well may make the difference in being well or sick. Emotional stress may rob the body of many of its nutrients by as much as one-third. When this occurs, the immune system suffers, and this leaves us vulnerable to colds and the flu.

Here is a guide to the main anti-stress nutrients that may aid in supporting our immune process.

Vitamin C, found in citrus, broccoli and tomatoes, is key in stress control. Stress triggers the release of hormones from glands that also store vitamin C. When these glands

for your best health

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turn up the hormone production; they lose stockpiles of the nutrient.

Since immune cells depend on vitamin C for repair and functioning, this lowers the resistance to infection. Most people do not consume the 60 mgs of vitamin C, a Recommended Daily Allowance (RDA), in their diet. This would equate to a half cup of the foods mentioned. During times of stress, our nutrient need for C may reach 200 mgs.

Experts suggest that people supplement vitamin C during stressful times. While studies vary on our basic needs for this valuable nutrient, most researchers agree that supplementing may aid in our immune support.

Vitamin E can also boost resistance. Yet while the RDA is 12 to 15 IUs (International Units) of this vitamin, this may not be enough to make an impact during stressful times. Recent evidence shows that 100 IUs of this nutrient can improve immunity. This would require about 20 cups of spinach, so I also suggest supplementing vitamin E.

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There is also growing evidence that vitamin E has a protective element within our cardiovascular system, and many patients are taking 400 IUs.

Caution should be taken with higher amounts of vitamin E and anticoagulant medications. Talk to your pharmacist about this.

Another important nutrient for anti-stress is **magnesium**. This mineral is usually found in wheat germ, bananas, kidney beans and lentils. Scientists believe that magnesium plays a role in the production of calming brain chemicals. Stress hormones seem to increase the excretion of magnesium, possibly causing deficiencies. The current RDA for magnesium is 280 mgs to 350 mgs. This amount may be found in two cups of spinach. However, during times of stress, 500 mgs or more may be required. Supplements may help here.

Magnesium is also important in protecting our heart and arteries. This is important in the stress process, and it has been shown that magnesium is deficient in most heart patients. Another fact is coffee may deplete this valuable mineral, so stay away from the java when you are stressed.

There are, of course, other nutrients involved in the stress process, and there are also many anti-stress products on the market. Be careful with herbal products and consult your healthcare professional before trying them.

There may be problems with some herbs mixed with medications, so it is wise to get all the information from your pharmacist before beginning any treatment.

Drug Nutrient Interactions

Interactions between food, herbs and drugs are more common than most people realize. Today, many people are taking herbal and nutritional

supplements in addition to their "conventional" prescription medications. This multiplies the opportunities for unforeseen or harmful reactions. It is therefore vitally important to know how drugs, nutrients and herbs react with each other. Information is often the key to preventing many of these unwanted or harmful reactions.

The anti-anxiety medications most commonly prescribed are known as benzodiazepines, of which alprazolam (Xanax) and diazepam (Valium) are the best-known and most common. Benzodiazepines have a rapid onset of action and may lead to side effects such as drowsiness or lethargy. These medications have the potential to cause dependence and are one of the classes of prescription drugs most likely to be abused or misused. Dangerous interactions can also occur when these drugs are taken with alcohol or certain other medications including herbs. St. John's Wort may dangerously intensify the effects of these two substances, so they should not be used together. Ask our pharmacist for further guidance on this.

The bottom line with stress is this: go into battle nutritionally well armed rather than equipped with gadgets and you won't have to surrender your health.