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## **What Happens When Your Immune System Gets Stressed Out?**

### **How stress impacts your immunity – and how to chill out**

For most of us, stress is just a part of life. It can last for a few hours — like the time leading up to a final exam — or for years — like when you're taking care of an ailing loved one.

Stress is sometimes a motivator that helps you rise to the occasion. At other times, it's simply overwhelming. Whatever the case, if it's chronic, it can take a toll on your immune system.

Clinical immunologist Leonard Calabrese, DO, offers insights on how stress impacts your immunity and what you can do to minimize the effect.

"Eliminating or modifying these factors in one's life is vital to protect and augment the immune response," he says. "It's necessary to buffer the inevitability of the aging process."

### **What impact does stress have on you?**

Stress occurs when life events surpass your abilities to cope. It causes your body to produce greater levels of the stress hormone cortisol.

In short spurts, cortisol can boost your immunity by limiting inflammation. But over time, your body can get used to having too much cortisol in your blood. And this opens the door for more inflammation, Dr. Calabrese says.

In addition, stress decreases the body's lymphocytes — the white blood cells that help fight off infection. The lower your lymphocyte level, the more at risk you are for viruses, including the common cold and cold sores.

High stress levels also can cause depression and anxiety, again leading to higher levels of inflammation. In the long-term, sustained, high levels of inflammation point to an overworked, over-tired immune system that can't properly protect you.

## Conditions that stress causes

If you don't control high stress levels, chronic inflammation can accompany it and can contribute to the development and progression of many diseases of the immune system such as:

- Arthritis
- Fibromyalgia
- Lupus
- Psoriasis
- Inflammatory bowel disease

Under sustained, long-term stress, you also can develop cardiovascular problems, including a fast heart rate and heart disease, as well as gastric ulcers. You'll also be at greater risk for type 2 diabetes, various cancers and mental decline.

## How can you better manage your stress levels?

Stress reduction strategies not only give your mind a break, but they can also relieve the pressure on your immune system. You can take steps to reduce short-term and long-term stress, Dr. Calabrese says. Two tactics are most effective:

- 1 **Meditation** (also called mindfulness): Meditate for 10 minutes to 15 minutes three or four times weekly to lower your stress. It reduces your cortisol levels and reduces inflammation. Research also shows it helps prevent the breakdown of your chromosomes that leads to cancer and premature aging.

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**Yoga:** Practicing yoga also lowers stress hormone levels and calms your nervous system to reduce inflammation. Deep breathing helps boost your resistance to infection. Inverted poses in yoga help circulate fluid through your lymphatic system, filtering out toxins.

Stress in acute situations, however, can be healthful and protective, so it's not all bad for us.

Remember: it's chronic stress that we seek to control.