



# boost your immunity

Humans tend to lie low when temperatures dip. But not viruses. They thrive in the cold, dry air of winter. What you need to know to stay healthy during flu season and beyond.

WRITTEN BY Tula Karras ILLUSTRATIONS BY Mikey Burton



**T**he nose-blowing commuter. The relentless office cougher. The sneezing fellow shopper. Victims of colds and the flu: *They're everywhere*. Fortunately, you don't have to be one of them. While viral strains cleverly morph from year to year (with some even outwitting antiviral drugs), scientists are discovering equally clever ways to bolster the immune system so those miserable symptoms are less intense or avoided altogether. On these pages, the latest measures for a snuffle-free winter.

### First, how your immune system works

Viruses are the culprits behind both colds and the flu, sneaking into your body as you breathe or hitching a ride on your hands and into your eyes, nose, or mouth. Luckily, the immune system does surveillance 24/7 to prevent viruses (and harmful bacteria, which can live without a human host and lurk year-round) from taking over entirely, says Susan Blum, M.D., the author of *The Immune System Recovery Plan*. When immune cells sense that something is astray, they release chemicals that attempt to kill the virus. The unfortunate side effects: sneezing, coughing, sore throat. If the virus continues to spread, white blood cells parachute in, releasing more chemicals that trigger more collateral damage: muscle ache, fatigue, and (with the flu) high fever. But don't worry. You'll probably recover within a week or so. What's more, that battle has triggered the production of antibodies, compounds that will keep you from falling ill from that particular virus again.

### 1 | How to stay healthy

Know someone who "never" gets sick? Either she has a genetically gifted immune system or she's really conscientious about supporting it with these tactics.

**VACCINATE EARLY.** The nasal spray for the flu contains weakened, live versions of viruses; the injection has dead, inactive ones. Both trigger antibodies that protect against flu viruses contained in the vaccines. But they take two weeks to start working, so get immunized early. The Centers for Disease Control and Prevention and the World Health Organization predict which strains will circulate, based on virus-surveillance data from around the world. Even if a vaccine isn't a total match, however, it can still offer up to 59 percent protection, reports a recent paper in the journal *BMC Medicine*. For the 2013–2014 flu season, doctor's offices and some pharmacies will offer, for the first time, vaccines that protect against an additional flu strain that may circulate this season. Ask for the vaccine specifically; supplies may run low and clinics may default to the typical, but still helpful, three-strain vaccine.



**POP PROBIOTICS.** Two-thirds of your immune system lies in your digestive tract, says Leo Galland, M.D., the author of *Power Healing*. This tissue not only screens for swallowed viruses but is also able to send out immune helpers to the respiratory tract. Probiotics are healthy bacteria that keep your intestinal lining intact and functioning properly. They also help special white blood cells, called lymphocytes, recognize invading viruses, regardless of where they enter. In a study published in the *European Journal of Nutrition*, two strains of the probiotic lactobacillus reduced the risk of colds from 67 percent to 55 percent.

Look for yogurts with live cultures of bifido-bacterium and/or lactobacillus strains, or take a supplement offering about 40 billion CFU (colony-forming units) daily.

**AVOID NSAIDS.** Using non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, naproxen, and aspirin, more than twice a week can weaken the intestinal lining and impair its ability to generate a full-body immune response. In a study conducted at the Baylor College of Medicine, in Houston, 70 percent of people who took an NSAID daily had damage to their intestinal lining after just three months. If you're dependent on NSAIDs for a health condition, ask your doctor about alternatives, such as topical NSAID skin patches.



**KEEP STRESS IN CHECK.** When you're stressed, your body mounts an immune reaction as if it were under attack, explains Jim Nicolai, M.D., the medical director at the Miraval Resort Integrative Medical Center, in Tucson. "This reaction is helpful in the short term," he says. "Antibodies go up, and your body produces the hormone cortisol, which initially fights inflammation." But with unrelenting stress, cortisol subsequently *suppresses* immune cells. To reduce stress, work to address its roots, and think positive thoughts (such as compassion toward a friend) in times of stress.

In a study published in the *Journal of Advancement in Medicine*, this technique raised antibody levels for six hours. When the subjects had negative thoughts, those antibodies were suppressed shortly after the subjects experienced fear or anger and did not return to normal until six hours later.

**WASH AND DRY.** Flu viruses can live for up to 30 minutes on skin, so if you've shaken someone's hand, don't touch your face until you've washed up. Even if a person doesn't

look or act sick, touching is still risky. A recent study published in the journal *PLOS/ONE* suggests that it can take up to 24 hours for symptoms to show up after the transmission of a virus. After washing with soap and water, dry well; damp skin makes it easier for new viruses to climb on. Viruses also thrive on cold, nonporous surfaces, like doorknobs, so take hand wipes or hand gel with alcohol on the go.

**STAND BACK.** When a sick person sneezes, coughs, talks, or so much as sighs, small, infected droplets float into the air and travel six feet or more, happy to be breathed in by anyone along the way. So keep your distance. Or open a window, which will allow viruses to circulate outside and away from you.

**HUMIDIFY.** When air contains water droplets, it's harder for viruses to remain airborne, says Pedro A. Piedra, M.D., a professor of molecular virology and microbiology at the Baylor College of Medicine. A study published in the journal *Environmental Health* reports that a humidifier in the bedroom resulted in up to a nearly 14 percent reduction in circulating viruses.

**TAKE AN NAC SUPPLEMENT.** NAC, or N-acetylcysteine, is an amino acid and antioxidant that may boost the immune system. In a study conducted at the University of Genoa, in Italy, only 25 percent of elderly subjects who took 600 milligrams of an NAC supplement two times a day for six months developed flu-like symptoms, compared with 79 percent of those who did not. Choose supplements (available in supermarkets) that provide 400 to 600 milligrams daily.

## 2 | You're sick. Now what?

If it's the flu, don't blame the vaccine. Chances are, either you were hit before you had time to develop antibodies or you contracted a variation not covered by the vaccine. The prescription drugs Tamiflu and Relenza stop viruses from replicating and may reduce symptoms and speed recovery by two days if taken within 48 hours of the first symptoms. But if you have a cold or you simply prefer to stay away from meds, there are plenty of other strategies to feel better faster.

**LOAD UP ON PRODUCE.** When you're battling a virus, white blood cells shift into overdrive and produce free radicals, which can damage immune cells, making you more susceptible to another attack. Antioxidants—including vitamins A, C, and E; beta-carotene; flavonoids; and other compounds—help stop the free-radical tissue damage that exacerbates cold and flu symptoms. They also help keep immune cells in fighting form. A recent study published in the journal *Antiviral Research* reports that the flavonoid quercetin, found in apples and citrus fruits, may keep cold viruses from replicating. Other good sources of antioxidants include kale and berries. Joy Bauer, R.D., the nutrition and health expert for NBC's *Today* show, suggests steaming or roasting, not boiling, vegetables, so nutrients don't get leached away (unless you're making soup).



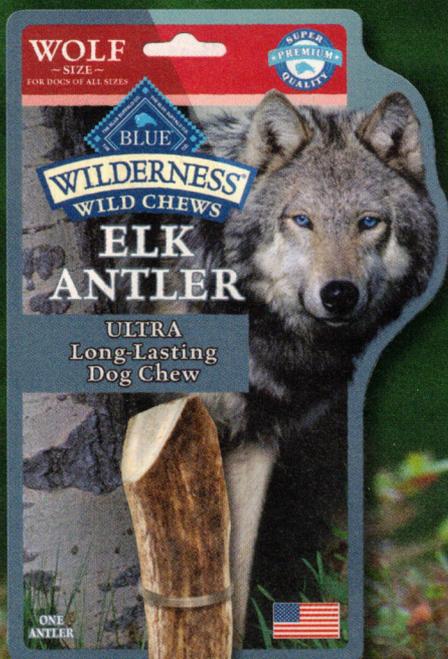
NEW



# ELK ANTLERS

## An Ultra Long Lasting Dog Chew from BLUE™

Made to satisfy your dog's most primal instinct, BLUE Wilderness Elk Antlers provide hour after hour of chewing enjoyment. Naturally shed from wild Elk, these ultra long-lasting chews are great for teeth and gums, hypoallergenic, and available for dogs of any size.



**SIP CHICKEN SOUP.** Grandma's specialty actually does help reduce cold and flu symptoms. A study conducted at the Nebraska Medical Center, in Omaha, suggests that cooked vegetables may lessen upper-respiratory symptoms. Other experts believe that the secret is in the chicken bones. When they're boiled for at least three hours, immunity-supporting gelatin from the collagen is released into the broth.

**AVOID PAIN RELIEVERS.** Raising body heat is one way the immune system kills off a virus. Reducing heat stops that process. But a high fever can stress the heart and lungs, so if your temperature rises above 103 degrees Fahrenheit, take ibuprofen or acetaminophen.

Call a doctor if a fever persists for more than two days. (If a localized problem, like an achy joint, accompanies a fever, call immediately.)

**BE SMART ABOUT SUPPLEMENTS.** There are at least two kinds that might speed recovery and reduce symptoms. A review paper published in the journal *The Cochrane Collaboration* suggests that zinc taken within 24 hours of the onset of symptoms can lessen their severity by stopping the virus from replicating. Shoot for 80 to 160 milligrams a day. In a study published in the *Journal of International Medical Research*, symptomatic adults who took 15 milliliters of flavonoid-rich elderberry (in pill or liquid form) four times a day for five days recovered four days faster than did those who did not take the herb.

### 3 | Recovery

You're on the mend, but your immune system is spent from all that work. Build it back up to avoid getting sick again.

**EXERCISE JUDICIOUSLY.**

Light exercise, such as yoga or walking, is fine if above-the-neck symptoms are mild and if fever and malaise are gone. But the high-intensity sort, such as running, registers as stress to the immune system and can make matters worse, says Neil Walsh, Ph.D., an exercise physiologist at Bangor University, in Wales.

**MAKE SLEEP A PRIORITY.**

The immune system rebuilds only when you're asleep. A recent study published in the journal *Sleep* found that sleep deprivation compromises the immune system in the same way stress does: by activating white blood cells. Try to get at least seven hours a night.

**CALM WITH VITAMIN D.**

The "sunshine" vitamin helps switch off T cells (specialized immune cells) post-infection so that the immune system won't keep fighting when there's nothing left to fight. Vitamin D is present in fortified dairy products and fatty fish. People with low levels may need a daily supplement of 2,000 international units (IU); check with your doctor.



### down with a cold or the flu?

Find out about other treatments at [realsimple.com/coldremedies](http://realsimple.com/coldremedies).