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Immune Power For Kids

© **Leo Galland M.D., F.A.C.N.** Director, Foundation for Integrated Medicine; author, *The Four Pillars of Healing: How The New Integrated Medicine Can Cure You.*



Asthma, allergic rhinitis, chronic otitis media and sinusitis are increasing at frightening rates among children in the United States. There are several measures that parents can take to effectively reverse this trend. These measures are supported by scientific research and have been very effective in my own clinical practice.

The first step is a nutritious diet, which decreases consumption of foods made with added fat and sugar. The National Cancer Institute reports that only one per cent of U.S. children consume a well-balanced diet and only about a third meet the government's food-pyramid targets for fruits, vegetables, grains, meat and dairy. Most surveys over-estimate vegetable intake because they classify french fries and potato chips as vegetables, accounting for about a fourth of alleged vegetable consumption among children. Previous studies from the U.S., Britain and Australia have shown that the eating of fish and tomatoes and the intake of minerals like magnesium and selenium are inversely related to the risk of developing asthma.

Detailed guidelines for feeding children in every age group, along with recipes, are supplied in my first book, *Superimmunity for Kids*. Recommendations for nutritional supplementation are listed below.

The second step is provision of a hygienic home environment. The three most important areas to control are smoke, dust and humidity. Children exposed to cigarette smoke at home have a higher frequency of asthma, respiratory infection and otitis. House dust can contain surprisingly high levels of lead and toxic waste, tracked in and concentrated from roadside soil, accumulating for years despite routine vacuum cleaning, sometimes exceeding concentrations found at superfund sites. House dust is especially hazardous to toddlers crawling on carpets, because carpet pile is a repository for dust. Excess moisture in the home (a relative humidity of fifty-five per cent or more) encourages the growth of dust mites and of mold. Mites secrete an enzyme which damages the lining of the respiratory tract; children with a high mite exposure are at increased risk for developing asthma. Children who live in homes with visible mildew or moisture are at increased risk for developing respiratory illness and for missing days from school. I describe nine simple steps for parents to take to ensure an environmentally safe home in previous issues of this column.

The third area is regularity of rest and exercise. Exercise of moderate intensity, such as brisk walking or cycling, thirty minutes a day, improves immune function and mood and prevents migraine headache. Most older children, high school students especially, are sleep-deprived. Sleep deprivation or interruption reduces natural killer cell activity.

Parents should help their children plan schedules that permit eight to ten hours of sleep a night. Daytime relaxation also has important health benefits. A period of quiet, focused relaxation each day relieves anxiety, improves nighttime sleep, and stimulates immune function of stressed individuals.

Nutritional supplements and herbs can make a substantial contribution to childhood health. Omega-three essential fatty acids, found in fish oils and flax oil, are essential for normal immune regulation and brain function. The past century has witnessed a dramatic decline in omega-three consumption, due to changes in food processing, food choices and animal husbandry practices. Cod liver oil, which can be a rich source of omega-three's, has long been used as a food supplement for children. A recent double-blind placebo-controlled study found that capsules of flax oil, two grams per day, decreased frequency, severity and duration of illness and days missed from school among children suffering from recurrent respiratory infection. I frequently recommend flax oil as a preventive supplement for children and adolescents at a dose to two to six grams per day.

Vitamin E levels in the blood of U.S. children are markedly lower than those of Japanese, German, Austrian or Canadian children, suggesting that children in the U.S. may as a group suffer from a mild deficiency. Healthy children with lower vitamin E levels have impaired immunity on laboratory testing. The immune defects associated with a relative vitamin E deficiency in "healthy" children are the same deficits associated with increased mortality in the elderly.

Children with recurrent respiratory infections have lower blood levels of zinc, iron and vitamin A than do children without recurrent infection. Adequate intakes of zinc and iron can be difficult to obtain from food, even when the diet is better than average. For young children I recommend a preventive daily supplement supplying ten milligrams each of zinc and of iron and twenty-five hundred units of vitamin A; adolescents need twice the dose. Because zinc and iron interfere with each other's absorption and because iron causes oxidation of vitamin E, children who are not doing well with a multivitamin/mineral pill should take separate doses of zinc, iron and vitamin E at different times of the day. Zinc is best absorbed on an empty stomach, but may cause nausea. The second best time for giving zinc is with a high protein meal. Iron is best absorbed with a high protein meal and when given with vitamin C. Vitamin E is best absorbed with food; the optimal immune-boosting dose is a hundred milligrams per day for small children and two hundred milligrams a day for adolescents.

Adolescents and children may sometimes develop repeated infections despite a hygienic environment, a regular schedule of rest and exercise, and a diet of high nutrient density, appropriately tailored to one's constitutional needs, supplemented with EFAs and antioxidants. There are many additional measures which may be taken to stimulate resistance. I recommend these frequently to patients in my medical practice and have been impressed with their safety and efficacy for children and adolescents:

- (1) Vitamin C, five hundred milligrams per day, increases the activity of white blood cells.
- (3) Granular lecithin, one tablespoon a day, has also been shown to improved the activity of white blood cells.
- (4) The amino acid dimethylglycine (DMG) has been shown to boost antibody responses to immunization in healthy human volunteers. The dose used was one hundred and twenty milligrams per day.
- (5) Immune stimulating herbs may help children overcome acute viral infection. The safest and best-studied are:

Echinacea species, which grow wild across the American mid-west from Wisconsin to

Texas. All parts of the Echinacea plant have been used for centuries by Native Americans to treat wounds and snake bite. Recent studies on its effects reveal marked stimulation of many immune functions, including increased activity of phagocytes. Echinacea is very safe.

The two main species, *Echinacea angustifolia* and *Echinacea purpurea*, are primarily recommended for acute treatment (ten to fourteen days) of colds or the flu. The dose needed is at least 900 mg per day, and I prefer *Echinacea purpurea* root to other preparations. Some people with chronic or recurrent infections benefit from taking Echinacea for prolonged periods, especially, during the winter. It may be taken continuously for eight weeks at a time and should be stopped for a week or two between each eight-week period.

In the treatment of acute respiratory infection, the activity of Echinacea is often enhanced by Chinese herbal mixtures traditionally used for treating fever. My favorite is called Isatis Formula. It is commercially available as an alcohol extraction of the leaves and roots of six plants. The dose is one to three dropsful three times a day. During heavy flu seasons, over three quarters of my patients taking the Echinacea and Isatis combinations have made statements like, "Everyone around me was sick for weeks, taking antibiotics. I usually get sick for three weeks with the flu, but I was better within a few days after starting these herbs."

Astragalus root is a component of many traditional Chinese herbal formulas, generally considered to be a strong tonic and resistance-builder. Contemporary studies reveal that Astragalus can increase natural killer cell activity. I often recommend Astragalus for maintenance therapy of people with chronic or recurrent infectious diseases of any type, because of its high margin of safety.

(6) Mushrooms. Fungal extracts are widely employed in traditional Chinese medicine. Shiitake (*Lentinus edodes*) and Reishi (*Ganoderma lucidum*) contain polysaccharides that increase natural killer cell activity and inhibit tumor growth in animals and in humans. Like Astragalus, Shiitake and Reishi are used in contemporary Chinese medicine as Fu Zheng remedies, which means they "support the normal", stimulating health, rather than being used as medication to treat sickness. A dose which stimulates immune responses is 900 mg per day of each. For people with severe allergies, it is advisable to use Reishi alone, as Reishi may inhibit allergic reactivity and Shiitake may increase it.

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Leo Galland, M.D. has received international recognition as a leader in the field of Nutritional Medicine for the past 20 years. A board-certified internist, Dr. Galland is a Fellow of the American College of Physicians and the American College of Nutrition, an Honorary Professor of the International College of Nutrition, and the author of



more than 30 scientific articles and textbook chapters 2nd Edition (Elsevier 2005). He has also written two highly acclaimed popular books, *Superimmunity for Kids* (Dell 1989) and *Power Healing* (Random House 1997), and has created [Drug-Nutrient Workshop](#).

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