OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Joseph Baker

Hygiene Hypothesis: What Parents Need to Know About Their Child's Immune System

If you're a parent, you likely spend an inordinate amount of time trying to keep germs off of and away from your kids. But, believe it or not, you may be able to relax a bit. In fact, encountering common germs, such as certain bacteria, common colds, certain fungus and some viruses, during childhood can actually help strengthen immune function, in turn preventing future disease.

Dr. Baker wants parents to know about the hygiene hypothesis. Its message is simple: Exposure to some pathogens (disease causing agents) and allergens can help make children healthier.

Immune System Basics

The hygiene hypothesis is based on a deeper understanding of the immune system's purpose and function. The immune system does not come preprogrammed; it evolves to protect against disease-causing processes.

Between birth and preteen years, the immune system "learns" how to react to everything it encounters. Repeated exposure to some pathogens and allergens helps train and strengthen a developing immune system.

Of course, Dr. Baker isn't suggesting that you live in squalor or expose your children to all pathogens, as some, such as carcinogens, should always be avoided. However, a few small tweaks to your lifestyle may do wonders to help boost your youngster's immune system.

Begins Before Birth

Recent research shows that strengthening immune function may begin even prior to birth — possibly during the birthing process.

In one study published in 2006, researchers enrolled over 3,000 children, who were born between 1975 and 1987, beginning at ages 8 to 17. Over the course of the long-term trial, researchers tracked the children's health.

Youngsters who were born vaginally (as opposed to via Cesarean section) were less likely to develop various diseases. The explanation? Vaginally born babies were exposed to intestinal bacteria during the birthing process.

The researchers summarize that "children born by C-section were at increased risk for asthma, hay fever, and allergy compared with those born vaginally. Risk associated with C-section was the same for children regardless of family history of asthma or allergy." (*Ann Epidemiol* 2006;16:341-6.)

Avoid Autoimmune Diseases

Avoiding infectious agents altogether may bolster chances for autoimmune diseases — illnesses where the immune system attacks its own body tissues. In germ-free environments, a child's immune system will create limited antibodies, remaining immature. Or without sufficient natural challenges, a child's developing immune system, may, instead, target its own tissues.

Autoimmune diseases are various, ranging from rheumatoid arthritis, lupus and multiple sclerosis to Type 1 diabetes. Autism is also a suspected autoimmune disorder.

Reduce Multiple Sclerosis Risk

Surrounding children with young playmates or siblings is a surefire way to guarantee sufficient exposure to common colds. When little Suzie or young Leo gets sick, other family members or close friends are bound to follow suit.

The good news is that shared germs, among young children, reduce the risks of multiple sclerosis (MS), according to research. MS is a neurological, degenerative disease of the central nervous system.

The study, which was conducted in Australia from 1999 to 2001, included 136 MS sufferers and 272 control subjects without MS. Researchers found that participants with an infant sibling, sometime during their first six years of life, were the least likely to develop MS (*JAMA* 2005;293:463-9).

Dr. Joseph Baker, Limerick Chiropractic Center (610) 489-1000
332 West Ridge Pike, Limerick, PA 19468

Protect Against Leukemia

Early infections may also help protect against childhood leukemia, a cancer of the white blood cells.

A three-year study performed in France focused on 473 children with acute leukemia (AL), 408 with acute lymphoblastic leukemia (ALL) and 65 with acute myeloid leukemia (AML). A group of 567 healthy children served as control subjects.

Children who contracted a "common" infection before their first birthday were 20 percent less likely to develop ALL, compared with those without infection. Intestinal infections produced even more significant protection: Youngsters who experienced them were 90 percent less likely to have ALL.

The study found no association between early infection and AML. However, day care attendance, which amplifies risks of early infection, was tied with a decreased risk of both forms of leukemia.

On the other hand, having three or more older siblings was associated with a doubled risk of the diseases, possibly because older children have more mature, resistant germs (*Br J Cancer* 2004;90:139-45).

Fight Allergies

Common allergy symptoms, such as sneezing, sniffling and itchy, watery eyes, can put a damper on fun, especially for children. And antihistamine drugs are loaded with side effects. Fortunately, early exposure to infections may protect against future allergic diseases.

Investigators pooled data on 835 children from birth to age 1, and then followed up when the subjects were ages 6 to 7. Of the children who did not experience a fever during their first year, 50 percent developed allergic sensitivity.

Of those who had one fever, 46 percent became allergy-prone. The children who suffered two or more fevers during infancy had greater protection, with only 31.3 percent exhibiting allergic sensitivity (*J Allergy Clinical Immun* 2004;113:291-6).

Embrace Dust & Microbial Agents

If dusty furniture causes you pangs of guilt or a few dust bunnies prompts a cleaning spree, you now have permission to relax. Research indicates that early indoor dust and microbial (small inhalable particles) exposure reduces asthma risks.

From age 3 months to 4 years, researchers assessed a group of children's exposure to dust and microbial agents. At the onset, when the children were 3 months old, researchers measured the levels of dust on their parents' living room floors.

From age 1 to 4, the scientists monitored if the children developed wheeze, asthma and "atopic sensitization," a condition which can lead to allergies. By age 4, children in the highest exposure group had a lower level of asthma and wheeze.

The researchers concluded that "microbial exposure in early life might protect against asthma and might constitute a novel target for prevention." (*J Allergy Clin Immun* 2006;117:1067-73.)

Keep a Pet

Not only can having a pet teach kids about responsibility, but Fido or Fluffy may help children develop fewer allergies, according to research.

In one study, researchers followed 474 infants from birth to age 7. The 184 children who were exposed to two or more dogs or cats during their first year and later on were 45 percent less likely to develop allergies than were the 290 kids from pet-free homes (*JAMA* 2002;288:963).

Preserve Beneficial Bacteria

Most people's cleaning supplies consist of an arsenal of antibacterial products that are used as weapons in an all-out war against bacteria. If this sounds like your cleaning regimen, reconsider.

Avoid all antibacterial products — from hand soaps to cleansers. Ingredients intended to fight bacteria can upset the natural balance of microorganisms and promote the growth of drug-resistant "superbugs."

Exposure to some bacteria is essential for an infant and child's developing immune system. In a study of 995 grade-school children, researchers in Perth, Australia, examined how the presence of household mold increased immunity.

The researchers concluded that "households with high cleanliness scores appeared to have significantly higher prevalence of current wheezing and current rhino-conjunctivitis in children. The association remained even after controlling for confounders such as age and gender of children, asthma history of parents, passive smoking and dampness at home." (*Pediatr Allergy Immunol* 2005;16:587-92.)