

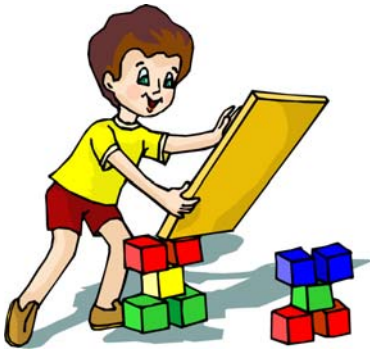
# OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Michael K. Corey

## Can Autism Be Prevented?

*The prevalence of autism has skyrocketed in the last decade. Current incidence is one in every 150 children, and almost one in 94 boys.*

*New research indicates that 30 percent of autism diagnoses stem from environmental factors — a shocking revelation that suggests one-third of incidence may be prevented by avoiding certain toxins. Read on to learn what scientists have recently uncovered. Dr. Corey urges patients to familiarize themselves with this cutting-edge research.*



### Autism Basics

Autism impairs a person's ability to communicate and relate to others. It's associated with rigid routines, repetitive behaviors and deficits in language and social communication. Diagnosis is usually by age 3, but new guidelines are pushing it back to as young as 6 months. A child's parents are usually the first to notice unusual behaviors.

### Suspected Causes

Autism has no known single cause. The disorder stems from abnormalities in specific regions of the brain. Brain scans show shape and structure differences in autistic children's brains compared to youngsters with normal brain development. In certain brain locations, nerve cells appear smaller than normal. These neurons have stunted connections to other brain regions.

### The Controversy

It's not clear why dramatically more children are being diagnosed in recent years than ever before. One argument is that broader diagnostic criteria and improved awareness among parents, educators and health-care providers account for the boost. These factors may play a role. However, there has not been a marked increase in diagnosis of autism among older people whose disorder might have been misdiagnosed or overlooked in childhood. This fact, among others, has led researchers to investigate environmental triggers, because exposure to them has increased in the past several decades.

### Immune System's Role

Dr. Corey's approach to preventive care focuses on the link between the nervous system and the immune system.

The immune system is an intricate network of interdependent cells, nerves, substances and organs that collectively protect the body from disease. A developing immune system is highly vulnerable to disruption, especially during the fetal and infant stages of growth. Disruption at a critical stage of development may have lifelong consequences.

For instance, studies suggest that immune dysfunction may be a contribut-

ing factor to the development of autism (*J Toxicol Environ Health B Crit Rev* 2008;11:660-80).

### Pesticides? Household Cleaners?

Some scientists argue that environmental contaminants, which are more prevalent now than in previous decades, may be responsible for the sharp rise in autism rates.

A new study in the medical journal *Archives of Pediatrics & Adolescent Medicine* indicates that there is an environmental trigger for autism among genetically vulnerable children. The findings suggest that 30 percent or more of autism diagnoses may be related to environmental factors.

The study investigated rates of autism from counties in California, Oregon and Washington. Incidence of the disorder appeared higher in areas with more rainfall, especially for children who resided in the location prior to age 3.

The researchers theorize several possible environmental triggers related to higher levels of precipitation and increased time spent indoors. Suspects include higher levels of early childhood television and video time, vitamin D deficiencies and exposure to chemicals in household cleaners.



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“These results are consistent with the existence of an environmental trigger for autism among genetically vulnerable children that is positively associated with precipitation. Further studies focused on establishing whether such a trigger exists and identifying the specific trigger are warranted,” conclude the authors (*Archives Pediatrics Adoles Med* 2008;162:1026-34).

### Mercury and Heavy Metals

Heavy metals, such as lead and mercury, may be associated with autism. Lead exposure may arise from ingestion of paint in older homes. Some toys and other important items may also contain lead.

Doctors of chiropractic also warn patients to be wary of the amount of mercury in their diets, especially during pregnancy and nursing. Certain fish, such as shark, swordfish, king mackerel, tilefish and tuna, have exceedingly harmful levels.

When scientists examined blood and urine samples from 28 autistic children, they detected high levels of mercury, compared to youngsters with normal brain development.

Moreover, children with severe autism had “significantly increased” levels of mercury, compared with those with mild cases. Additionally, the autistic children had “significantly decreased” levels of glutathione compared to controls. Glutathione is important for detoxifying and excreting metals from the body. It works as an antioxidant, keeping in check the destructive process of oxidative stress caused by environmental toxins (*J Neurol Sci* 2008; epub).

On the other hand, consumption of non-tainted fish high in omega-3 fatty acids during pregnancy and nursing is linked to higher IQ levels among children.

### Genetic Predisposition

Genetic experts argue that some children have a genetic predisposition to autism, which increases their susceptibility to environmental triggers. Scien-

tists have identified genes linked to the condition, but lack complete understanding of the entire set of related genes. While no one gene has been singled out, researchers are searching for irregular segments of genetic code that autistic children may have inherited. In many families, there is a pattern of autism or related disabilities, further supporting a genetic basis.

### Vaccines

Research linking autism to vaccines is conflicting. Thimerosal, a preservative in vaccines that is 49 percent ethyl mercury, was removed from childhood immunizations in 2001. However, some flu vaccines may still contain thimerosal. If you are interested in the possible link, please ask the doctor for additional research materials.

### Prenatal Infections

Research suggests that maternal infections during pregnancy may be related to a child’s later development of autism.

The immune system reacts to infection by producing one of a group of molecules known as cytokines. Cytokines are inflammatory proteins, which control and direct immunity, inflammation and the formation of blood. New research suggests that when cytokines appear in high doses during pregnancy, even briefly, an infant may develop altered behavior.

In one study, researchers gave pregnant mice a particular cytokine on day 12.5 of their pregnancy. The result? The developing offspring emerged with significant brain changes. In another experiment, the researchers blocked this particular cytokine, and by doing so, halted the detrimental effect on the fetuses’ brains (*J Neuroscience* 2007;27:10695-702).

### Medications

During pregnancy, risks for long-term consequences to the fetus are especially high. Certain medication taken during pregnancy may cause a child’s later development of autism.

For example, new research shows that taking the epilepsy drug valproate during pregnancy significantly increases a child’s risks for the condition. The hot-off-the-press report appears in the December 2008 issue of the medical journal *Neurology*.

The analysis included 632 children with no known family history of autism. While pregnant, approximately one-half of the mothers took an epilepsy drug: 64 took valproate, 44 took lamotrigine, 76 took carbamazepine and 65 took other epilepsy drugs. Researchers performed tests at ages 1, 3 and 6. Out of the 632 subjects, nine were diagnosed with autism and one youngster exhibited autistic symptoms.

Seven of the autistic children had mothers who took an epilepsy drug while pregnant, five of whom were exposed to valproate. Fetuses exposed to valproate had *seven times* the risk for developing the disorder, compared to those not exposed to epilepsy drugs (*Neurology* 2008; epub).

It is key to avoid all unnecessary medication during pregnancy. Chiropractic care helps expectant moms do just that!

### Talk to Us

With the startling rate of diagnosis, we understand parents’ and grandparents’ concerns about autism. We’re here to help keep you informed with the latest research. Please feel free to share your questions about any health challenges affecting your family. We believe that many diseases can be improved — or even prevented — with a healthy lifestyle, rooted in proper nutrition, restricted amounts of unhealthy fats, adequate exercise and hydration, limited stress and chiropractic care.

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