Revised Edition

ZEOLITE

Nature's Heavy Metal Detoxifier



Dr. Howard Peiper, N.D.

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by

Dr. Howard Peiper

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Author's Statement

I believe we need to be aware about the potentially tragic and harmful effects of the numerous chemicals which assault our bodies on a daily basis.

This booklet will discuss the many different ways chemicals can affect you and your loved ones. Do not feel overwhelmed. Rather feel empowered and recognize that practical sensible answers do exist, and some of these are inexpensive, easy and effective. Prevention and avoidance are the keys. Detoxification and elimination of chemicals from your body is a necessity.

You can truly turn your life around. Your present health can improve significantly and your future wellbeing can be made much more secure.

Howard Peiper, N.D.

"Seek not to learn, but to think. Seek not to accept what is told you, but to question." Bernard Jensen, D.C., Ph.D.

Chemicals and Pesticides Can Hurt You and Those You Love

What are harmful chemicals and pesticides? Industry data from the EPA (Environmental Protection Agency) indicates that 1.2 billion pounds of chemical that potentially can be harmful to humans were released into the air and water nationwide in 1998. There are over 81,000 chemicals presently used in the United States. Less than nine percent of these chemicals in relation to healthy young males, have been properly studied for their effects on the human immune, nervous, endocrine and reproductive systems.

The facts are that chemicals can be a problem for anyone, at any age. Their safety has never been checked as to their effects on the unborn, young children, females, pregnant women or older individuals who are the most apt to have adverse effects. Even at risk is anyone who has a depressed immune system, such as a cancer patient undergoing chemotherapy. Almost any area of the body can be vulnerable and can be adversely affected from chemicals or other harmful environmental exposures. Sensitivities to chemicals can begin at any time. Therefore, for those who think of themselves as immune to chemicals, they had better get educated before it's too late.

About 51 different types of chemicals, including such compounds as herbicides, insecticides, termiticides or fungicides are collectively called pesticides. Of the 63 active pesticides used in schools, statistics show many alarming facts: 18 are probable causes of cancer, 24 are related to birth defects, 45 appear to cause reproduction problems, 48 can affect the

central nervous system, 54 can damage the kidneys and 60 may cause eye and skin problems.

Is it necessary to be afraid? Maybe. Better than being afraid, let this booklet empower you by providing you the knowledge you need to help and protect yourself!

Industrial Toxins

A great number of highly toxic chemicals, materials, and heavy metals are released by industrial processes and find their way into the human body. Heavy metals, such as lead, arsenic, mercury, aluminum, nickel, cadmium and many others that have no safe level in the human system. These toxins may accumulate within the fat cells, central nervous system, bones, brain, glands, or hair and manifest negative health effects.

The claim that environmental chemicals can cause or promote cancer is supported by the fact that the distribution of toxic-waste dump sites closely correlates with those locations being synonymous with high rates of breast cancer mortality. A variety of chemicals found in the environment can mimic the activity of estrogen once inside the human body; and are now believed to contribute to many cases of breast cancer. By 1983, the EPA had detected over 420 toxic chemicals in human tissue; 48 in fat tissue, 42 in breast milk, 75 in the liver and 252 in the blood.

Industrial workers are routinely exposed to potentially toxic chemicals and substances while on the job. Tanners, oil refinery workers and insecticide/herbicide sprayers are exposed to arsenic and risk lung and skin cancer. Shipyard workers, demolition experts, and brake mechanics are exposed to asbestos, which place them at risk for lung cancer. Hospital and laboratory staffs, as well as those involved in the manufacture of wood products are routinely exposed to formaldehyde. School biology labs using 1 Scientific American, Oct. 1995.

Other carcinogens in the workplace, such as benzene, diesel exhaust, human-made fibers, hair dyes, mineral oils, painting materials, polychlorinated biphenyl and soot are linked with specific occupations, routine exposures and various cancers.² It is estimated that 12% of all cancers are attributable to job related exposures to carcinogens.³

Polluted Water

Tap water is becoming a health hazard in the United States. It is not only pesticides and agricultural runoffs that contaminate public drinking water. According to the EPA, the tap water of 30 million Americans contains potentially hazardous levels of lead.⁴ In addition, one out of every three public water systems has violated federal standards for tap water. Municipal water can contain many different contaminants, including disease-causing bacteria, radioactive particles, heavy metals, gasoline solvents, industrial wastes, chemical residues and synthetic organic chemicals.

A survey of over 100 municipal water systems and suppliers found significant levels of cancer-causing arsenic, radon and chlorine by-products, reported the Natural Resources Defense Council in October 1995. An estimated 21 million Americans drink water with radon levels higher than federal safety standards, and two-thirds of the 300 major water suppliers and agencies fail to give consumers information on their tap water. Polluted drinking water can further raise the risk of developing cancer.

² Atlantic Monthly, June 1996.

³ Radiology, Vol. 178, 1991.

⁴ National Women's Health Network, Vol. 36, 1993.

Mercury Toxicity

Mercury, a toxic heavy metal that often comprises up to 51% of "silver" dental fillings, is a noted carcinogen and has the ability to impair immune function and create blockages in the autonomic nervous system and other tissues. Evidence now shows that mercury amalgams are the major source of mercury exposure for the general public, at rates six times higher than that found in seafood.

Since mercury vapors are continuously released from amalgam fillings, as long as you have dental fillings, you inhale mercury vapor 24 hours a day and 365 days a year. After elemental mercury from amalgam fillings is inhaled or ingested, it is converted in the body to methylmercury, the organic form of mercury. Methylmercury, because it easily crosses the blood-brain barrier, has been associated with neurodegenerative diseases such as Alzheimer's, Multiple Sclerosis and amyotrophic lateral sclerosis. As toxic as elemental mercury is, methylmercury is 120 times more toxic. In the New England Journal of Medicine it was pointed out that "the fetal brain is more susceptible than the adult brain to mercury-induced damage." 5 Specifically, methylmercury "inhibits the division and migration of neuronal cells and disrupts the cytoarchitecture of the developing brain."6 Recent studies have correlated the explosive increase of autism with thimerosal, an additive to many vaccines that contains 54% ethyl mercury.

Mercury is a heavy metal. Heavy metals act as free radicals – highly reactive, charged particles that can cause damage to body tissues. Like other heavy metals, mercury has been shown to cause damage to the lining of arteries and nerve bundles (ganglia), particularly those near the prostate.

The EPA recently reported that a third of the country's lakes

5 New England Journal of Medicine 2003; 349 (18).

6 Ibid

and nearly a quarter of its rivers are now so polluted with mercury that children and pregnant women are advised to limit or avoid eating fish caught there. Warnings about mercury, a highly toxic metal used in things ranging from dental fillings to watch batteries, have been issued by 45 states and cover four of the five Great Lakes. Mining, waste incineration and coal combustion convert it into methylmercury, a compound that works its way up the food chain into fish and eventually humans.

Nuclear Radiation

Working or living in the proximity of nuclear power plants presents a cancer risk. Among the hazards are the small amounts of radioactive gases released daily from nuclear reactors at levels deemed "permissible" by the U.S. Department of Energy. This low-level radioactive pollution returns to us in rainfall, which then accumulates in the soil to contaminate the food chain. People who eat dairy products and other foods tainted by these radioactive releases may be unwittingly exposing themselves to dangerous carcinogens. Since dairy products tend to concentrate the radioactive fission products, avoiding such foods may lower your cancer risk.

Chronic exposure to nuclear fission products through diet and drinking water "may be the single largest factor in the increased incidence of most forms of malignancies since 1945", Ernest Sternglass, Ph.D., Professor of Radiation Physics at University of Pittsburgh.

Other common toxic chemicals found in humans:

• *Dioxins* (by-products of PVC production, industrial bleaching and waste incineration): Dioxins are known to cause cancer in animals, and there is some concern that even low-level exposure over long periods of time can disrupt normal functioning of

- the endocrine (hormone) system, resulting in reproductive or developmental effects.
- *Furans* (pollutants, by-products of plastic production): Furans cause cancer in humans and are toxic to endocrine system.
- *Phthalates* (found in many cosmetics and personal care products): Phthalates cause birth defects in male reproductive organs.
- *PCBs* (industrial insulators and lubricants): PCBs were banned in the U.S. in 1976 due to their connection to increased cancer rates and central nervous system disorder.

How Often Does Exposure to Toxic Chemicals Cause Illness?

It is estimated that over 12 million Americans are so severely affected by toxic chemicals that they must totally change their life-style and no longer can live in a normal manner.

Toxic chemicals in humans have been reported to alter:

- normal development of the unborn leading to miscarriages, stillbirths, birth anomalies and delays in normal development. (At least 3 million children presently suffer from developmental, learning and behavioral difficulties.)
- the immune system causing an increased tendency to allergies and recurrent respiratory (nose, sinus or lung) or ear infections.
- defense systems of human bodies making them more prone to cancer.
- our brain and nervous system causing headaches, difficulty thinking or remembering, inexplicable emotional ups and downs, inconsolable depression, irritability, moodiness, aggression, hyperactivity or extreme fatigue.

- the endocrine system, contributing to illnesses such as diabetes, thyroid disease and weakened adrenal glands.
- our reproductive system causing a wide variety of sexual problems and infertility.
- muscular system causing twitches, tics, muscle pain or weakness, in time possibly leading to Fibromyalgia, MS, amyotrophic lateral sclerosis or Parkinson's disease.
- skeletal system causing chronic swelling and stiffness that eventually leads to pain and permanent joint deformities.
- heart and circulatory system causing high blood pressure or irregular heart beats.
- blood vessels causing abnormal bleeding into the skin, joints, breasts, urine and elsewhere.

⁷ Our Toxic World, Doris J.Rapp M.D. ERF Publ.

"I learned to listen to my body with an inner concentration like meditation, to get guidance as when to exercise and when to rest. I learned that healing and cure are active processes in which I myself needed to participate."

Rollo May

There is a Solution!

Zeolite. Millions of years ago, zeolite deposits formed when volcanoes erupted enormous amounts of ash-aluminosilicates of alkaline and alkaline earths. Some of the wind borne ash settled to form thick ash beds. In some cases the ash fell into lakes and in others water percolated through the ash beds. In all cases, the chemical reaction of volcanic ash and salt water resulted in the formation of natural zeolites.

The characteristics of a zeolite deposit are decided in its genesis. Small natural differences such as temperature, geographic location and ash/water properties impart a slightly different composition and therefore some unique properties to a few of the deposits. These small differences present during the formation of a deposit are the reason that each natural zeolite sample has distinctly unique properties.

The alumina and silica from the ash stack into a stable, open and three dimensional honey comb structure. There are over forty other natural zeolite structures. For example, clinoptilolite (a member of the zeolite group of minerals) has a silica to alumina ratio of four to one.

Zeolite is an amazing crystalline mineral capable of adsorbing and absorbing many different types of gases, moisture, petrochemicals, heavy metals, low-level radioactive elements and a multitude of various solutions. The channels in the zeolite provide large surface areas on which chemical reactions can take place. The cavities and channels within the crystal could occupy up to 51% of its volume. Zeolite can

adsorb or absorb large amounts of material such as ions or gas molecules.

There are three main kinds of zeolite: fibrous, leafy or crystalline. Medical use is from crystalline zeolite that contains high quantities of the mineral clinoptilolite.

How does it work?

Its extremely hard, microporous, honeycomb type of structure is permeated by ducts and cavities throughout. These caves or channels are openings where either minerals or heavy metals can bind. The silicon building block is electrically neutral, but the aluminum building block carries a negative charge creating charged sites throughout the entire crystal structure. The balancing process that works to maintain electroneutrality in the clinoptilolite attracts positive minerals such as calcium, magnesium, potassium, sodium and iron. These common cations (positively charged ions) can easily be displaced by heavy metals such as cadmium, mercury, nickel and arsenic and be removed from the body.

Zeolite has a history of industrial and veterinary use, including water purification, air filters, in animal feed to reduce the production of ammonia and increase the nutritive effect, and in cat litter and animal stalls to reduce odor. It has even been put in cigarette filters to reduce nicotine and tar.

Medical Uses of Zeolite

Zeolite as an anti-diarrheal. Many people chronically suffer from abdominal cramps and bloating, they also may suffer from diarrhea and constipation. These symptoms may be the result of irritable bowel syndrome (IBS). IBS is the term used to describe the situation in which the digestive tract is not functioning, as it should.

It is estimated between 21 to 51 million Americans have IBS, and this condition accounts for 2 to 3 visits to the doctor

annually. Although IBS affects people of all ages, races and genders, nearly two-thirds are females.

Natural silicate materials have been shown to exhibit diverse biological activities and have been used successfully as a vaccine adjuvant and for the treatment of both diarrhea and IBS.

The potential growth promoting action of natural zeolite has been attributed to their high affinity for ammonium ions, resulting to the reduction in the uptake of ammonia produced from deamination of proteins during digestive processes via the intestinal wall. Ammonia is recognized as a cell toxicant and the reduction of the amount, which the intestinal epithelial cells are exposed to, could lead to a reduction of epithelial turnover, sparing of energy and a better nutrient utilization.

The best known positive activity of natural zeolite is its action as an anti-diarrheal product. Zeolite lowers the incidence of death and sickness produced by intestinal diseases in various animals. Based on these results a comprehensive study was carried out on anti-diarrheal drugs based on natural zeolite as an active material in the therapy of acute diarrheal diseases in humans. This research led to approval of the anti-diarrheal drug Enterex for use in humans.⁸

Ingestion of zeolite may be considered analogous to clay eating, considered in traditional medicine as a remedy for various illnesses. Because of the ion exchange properties, zeolite can change the ionic content, pH, buffering capacity of the gastrointestinal secretions and affect the transport through the intestinal epithelium. Also, zeolite can produce a positive effect on the bacterial flora and the resorption of vitamins and minerals. The contact of zeolite particles with gastrointestinal mucosa may elicit the secretion of cytokines (a part of our

⁸ Rodriguez-Fuentes, G. Enerex-antidiarrheic drug based on purified natural zeolite (1997).

immune system) with local and systemic actions. This creates a healthier digestive tract with beneficial flora and fauna.

Zeolite and mycotoxins

Zeolite is known to bind a range of mycotoxins, forming highly stable complexes. Mycotoxins are a diverse family of toxins produced by certain fungi especially by species of Aspergillus, Claviceps and Alternaria. There are several hundred distinct mycotoxins, capable of causing health problems such as renal and hepatic syndromes and diminished immune system. The most extensively researched mycotoxins are the aflatoxins (i.e. found in corn, peanuts, milk and cereals) which have been linked to liver, stomach and kidney cancer. The ability of zeolite to adsorb the aflatoxins has resulted in measurable improvements in the health of various animals (Mumpton, Pariat 1999 and Kyriakis 2002).

Zeolite as a heavy metal adsorbent

Many toxic heavy metals have been discharged into the environment as industrial wastes, causing serious soil and water pollution. The main threats to human health are exposure to mercury, cadmium, lead and arsenic. These metals have been extensively studied and their effects on human health regularly reviewed by international bodies such as WHO (World Health Organization 1993).

Studies have shown that zeolite has a high affinity for trapping lead, cadmium, arsenic, mercury and other potentially harmful metals. Through the process of cation exchange, zeolite can lower overall heavy metal exposure in individuals. This would have a dramatic effect in the risk reduction of certain cancers and heart disease.

What is very interesting is that zeolite appears to remove toxins in a particular order. It first removes the above heavy ⁹Tomasevic-Canovic and Hugwig 2001.

metals within the first few weeks, then it removes secondary priority toxins, including pesticides, herbicides and plastics.

Author's note: "I have been taking a zeolite product for a few weeks and have noticed improvements in mental clarity, increased energy and a continued sense of peace and well-being."

Zeolite and pH

The scale used to measure the body's acidity and alkalinity is called pH, normally measured in a range from one to fourteen. A neutral solution, nether acidic nor alkaline, has a pH of seven; acid is less than seven, alkaline is more than seven. The blood must be kept within the very narrow range of pH 7.4 to maintain homeostasis (balance).

Unfortunately, the average North American diet is very high in acid foods, such as sugar, refined carbohydrates and starch. These are not conductive to maintaining proper pH balance in the body and raise acid levels. To prevent disease from getting a foothold in this acid environment it is imperative that homeostasis be restored.

The body has a wide array of mechanisms to maintain homeostasis in the blood and extracellular fluid. The most important way that the pH of the blood is kept relatively constant is by buffers dissolved in the blood.

Zeolite buffers the system towards slight alkalinity by establishing pH levels of 7.35 to 7.45, which is the optimum pH for the human body. The body's pH level influences both immunity and brain function.

An acid blood pH (7.34 or lower) creates a precondition for cancer. In an acid environment, brain cell function can also be impaired, causing depression, anxiety, stupor, paranoia, delusions or hallucinations.

Zeolite as a Potent Antioxidant

Over 90% of different diseases (malignant, cardiovascular, diabetes, arthritis, neurodegenerative, etc.) as well as aging appear as the consequences of cellular functional disorder and the damage of the cell itself, which is caused by direct or indirect influence of Oxygen Free Radicals. Free radicals supervise many processes in transmission of signals and expression of genes.

Smoking, incorrect eating habits, different radiation and exposure to harmful chemicals decrease natural defensive power of an organism and increase the danger of free radical damage. For example, scientific studies have shown that people who smoke have 30-45 times more damage to their DNA than non-smokers. Therefore, cells and tissues are constantly exposed to the affects of oxygen radicals.

With its own antioxidant system the cell protects itself from free radical damage. But during some time that defensive system weakens and under the influence of free radicals it becomes insufficient and the result is damage to the cell.

Zeolite is a unique antioxidant. A traditional antioxidant works by absorbing excess free radicals into its system because it has an unpaired electron. In contrast, zeolite traps free radicals in its complex structure, inactivating and eliminating them.

Zeolite and Cancer

The development of modern industry has caused increasingly serious pollution in the environment constituting a catastrophic health risk, including cancer. Cancer prevention is thus one of the challenges facing scientists in the 21st Century and removal of carcinogens from the environment is an important step.

Nitrosamines are probably the most widespread carcinogens, existing in the workplace, processed meats, cigarette smoke and beer. Many carcinogenic agents like nitrosamines or their precursors enter the human stomach through diet and drinking. Environmental pollution makes this hidden trouble more serious because of the contaminated food and polluted atmosphere. However, although nitrosamines are well known carcinogenic substances, they require metabolic activation before reaction with DNA to cause mutation and cancer. It is very possible and necessary to trap the nitrosamines in the digestive tract provided a selective adsorbent material is used. Zeolite is considered as the best candidate. Zeolite has been used in slow released drugs, enzyme mimetic drugs, anti-tumor drugs and additives in cigarettes to remove carcinogenic agents like nitrosamines.

In summary, zeolite's mechanism of action against cancer cells is unique and unlike that of any other substance. It has the rare ability to take in a tremendous amount of positively charged toxins, indirectly neutralizing their effect in causing cancer. In the process, the zeolite develops a slight positive charge. It is then attracted to and pulled right into the negatively charged membrane of the cancer cell. When the zeolite moves into the cancer cell, the cell's P21 gene is activated. This gene acts as a tumor suppressor through its ability to control cell-cycle progression. The activation of P21 halts the growth of tumors by indirectly suppressing growth signals.

Zeolite and Viruses

The list of disease caused by viruses is immense and range from the common cold to cancer. Viruses not only cause specific diseases with clear diagnostic symptoms, but can also cause a constellation of symptoms that can defy diagnosis. Some viral diseases mimic other illness (for example, fatigue caused by anemia), or secondary inflammation (joint pain associated with arthritis). Certain viruses have specific affinity for only one type of tissue such as the liver or skin, while others an attraction to the body organs and systems. Viruses can cause localized infections such as warts or a sore throat, or a generalized infection such as in influenza, in which your whole body feels sick.

Zeolite has the capability to trap pre-virus components, preventing the replication of viruses and their ability to cause various conditions. Zeolite absorbs viral parts into the pores of the micronized zeolite aggregates. This is the reason why zeolite seems to block the development of many viral infections, including Herpes virus 1, Coxsackie virus B-5, and Adenovirus 5. There have been many studies in cases of herpes zoster patients that have become pain free within one to three days after beginning to take zeolite. Other studies have shown that it is effective in treating the flu, colds, hepatitis C, viral or heavy metal induced multiple sclerosis, and rheumatoid arthritis. It also helps liver enzymes (AST, ALT) in reaching normal values.

Zeolite's effect as an anti-viral appears to be a preventative function that builds up over time, beginning after approximately four to six weeks of use, when heavy metals, pesticides and herbicides have been mostly eliminated. There is anecdotal evidence, however, that in some cases its antiviral effect seems to be immediate.

Zeolite and the Immune System

The immune system's basic function is to protect us against infection, illness and disease of all kinds. It fights off thousands of predatory environmental and infectious microorganisms, which can invade and damage virtually every part of the body. The immune system has the ability to expel pathogens (virus, bacteria, etc.), toxic chemicals and tumorous cells that are generated through mutation. It also aids the

body in tissue repair and healing and strives to maintain homeostasis (balance) in the body.

Zeolite appears to balance the immune system. Because zeolite so powerfully removes various types of toxins from the body, it naturally increases energy, well being and mental clarity. These are what we term positive secondary effects. Clearing out heavy metals allows the body's magnesium stores to work efficiently with adenosine triphosphate (ATP), the biological source of energy in the body. When this interaction is occurring optimally, people have more energy and experience greater well being. One study showed that zeolite also appears to increase serotonin level, which is known to help alleviate some forms of depression.

Zeolite and Hangovers

Alcohol intoxication causes dehydration and an imbalance in electrolytes, minerals and some vitamins in the bloodstream disrupting many normal biological processes. Additionally, when the blood alcohol is high, liver enzymes responsible for detoxification cannot function quickly enough so that toxic metabolites are produced. Such metabolites may be more toxic than alcohol and can cause nausea, headaches, and discomfort, usually referred to as a "hangover." Congeners, toxic by-products of distillation and fermentation, worsen hangovers. Some alcoholic beverages such as red wine, brandies and whiskies have higher concentrations of congeners than others. Zeolite relieves the deleterious side effects of excessive alcohol consumption.

Zeolite's Effect on Other Conditions

Throughout this booklet, I have informed you about the way zeolite can benefit your body's most critical physiological system. From detoxifying toxic chemicals from the body to providing your immune system with the necessary

firepower to combat infections, zeolite is emerging as one of human kind's most beneficial allies.

Below is a list of other various diseases that can be treated by taking zeolite:

- Circulatory system: stabilization of the circulatory system along with improved blood pressure and reduced varicosity of the veins, reduction of hemorrhoids and disappearance of enlarged capillaries. Strengthening of the heart muscle, acceleration of post heart attack recuperation.
- Rheumatic Disorders: improved treatment of all types of rheumatic disorders, including sciatica, discopathy, arthritis, spondilosis, and rheumatic arthritis.
- *Kidney Function:* diuretic effect and positive influence in improving kidney function and treatment of kidney infection.
- Skin Diseases: treatment of skin diseases such as: seborrhea, dermatitis, herpes (all types), psoriasis, and others, through either oral intake and/or external application of powder.
- *Diabetes Mellitus*: stabilization and decrease in the level of sugar in the blood.
- *Endocrine Glands:* optimization of endocrine gland activity, especially in the lymph nodes.
- Wounds and Burns: accelerated healing of wounds with direct application of powder. Also, direct application of powder to minor burns relieves pain and eliminates skin damage.
- *Periodontosis:* treatment of periodontosis and elimination of micro-organisms in the mouth with powder applied directly to the gums or as an additive to toothpaste.

- Improving Skin Quality: increased moisture, as well as significantly increasing resistance to various negative external factors including UV rays.
- Neuro-psychiatric Effects: overall improvement of disposition, successful treatment of insomnia, neurosis, and depression. Aids in the treatment of epilepsy, schizophrenia, Alzheimer's disease and Parkinson's disease.
- Increasing Endurance: increased endurance in situations of increased physical effort, reduction or elimination of pain resulting from increased physical exertion.
- Fungal Infection: quick and complete elimination of various fungal infections of the skin (Candida and others) and mucous membrane with direct application of powder. Elimination of fungal foot infections and treatment of fungal infections on internal organs, which can result from radiological procedures in combination with antibiotics.

Zeolite for Pets

Recently the U.S. Food and Drug Administration (FDA) reported that dog and cat food was released containing aflatoxin, a naturally occurring toxic chemical that comes from a fungus found in corn and other grains that causes severe liver damage in animals.

Animals that have ingested food containing this toxic mold have suffered permanent liver damage that literally has killed many pets. Owners of these animals suffer emotionally and financially. Over 76 dogs have died so far from this toxin with many more severely sick.

A study was conducted on aflatoxins found in grains fed to chickens. Researchers found that aflatoxin caused unfavorable microscopic changes to the liver, kidney, spleen, reproductive organs, and increased susceptibility to some environmental and infectious agents. This is the same aflatoxins that are being accidentally fed to our dogs and cats.

The study concluded that the powdered form of zeolite has the ability to adsorb the aflatoxins, which resulted in measurable improvements in the health of various animals.

Natural zeolite has been shown to exhibit diverse biological activities and has been used successfully as a vaccine adjuvant and for the treatment of diarrhea in animals. The use of finely ground zeolite; was used as a treatment for dogs and cats suffering from a variety of tumors led to improvement in the overall health status, prolongation of life-span, and decrease size. Local application of zeolite (powdered) to skin cancers of the animals effectively reduced tumor formation and growth.

In addition, toxicology studies showed that the treatment did not have negative effects.

In vitro tissue culture studies showed that finely ground zeolite inhibits protein kinase B (c-Akt) and blocks cell growth in several cancer cell lines. (Bedrica, Hadzija 2001)

Testimonials for Pets

"Zeolite saved the life of my dog. Literally. She had Lyme disease, her immune system was failing, and she couldn't walk and had diarrhea. I thought if I could stop the diarrhea, she would stay alive for me to work on everything else that was wrong and zeolite worked fairly quickly. Once she wasn't dying from diarrhea, the zeolite supplement started to pull toxins from her body and little by little she regained her strength. She is a big German Shepard, just turned 12 and is doing great!"

Kathryn Monet, Goshen, NY

Clinical Studies

Zeolite influencing the cellular signal transduction pathways

"Clinical observations suggest that zeolite may be particularly promising in tumors known to respond to immune treatment with interferons and interleukins, like melanoma, renal cell cancer, lung cancer, and grade II and III astrocytoma. Significant improvements have been seen in 39 lung cancer patients and in 21 individuals suffering from glioblastoma (tumor of the central nervous system) after a 3 week treatment with 12-16 grams of zeolite daily. Some patients with melanoma stage III and IV or lung cancer survived relapse-free for up to 6 years, respectively, on a long-term treatment."

Drs. S. Iykovic, T. Baranel, P. Bendzko, and J. Schulz, Croatia, 1998

Zeolite treatment of cancers in test animals and humans

Preliminary research was conducted at the Ruder Boskovic Institute in Croatia with the aim of establishing conditions for carrying out clinical testing of zeolite. Investigation was carried out on the effects of zeolite on human tumor cells in vitro and on the growth of melanoma tumors in mice in vivo, as well as in cases of complication with diabetes mellitus.

In vitro, tests were run on the influence of zeolite on the inhibition of growth in human pancreatic carcinoma, cervical carcinoma and laryngeal carcinoma. Results showed that inhibition of cells growth occurred dependant on the dosage used of zeolite (in powdered form) and the type of tumor.

In vivo, laboratory mice were inoculated with melanoma cells and were given zeolite (powder) twice a day orally for five days. Observation of tumor volume confirmed that zeolite reduced tumor volume in mice.

Testing was also carried out on five male patients, in the United States, between the ages of 51 and 69 suffering from:

prostate cancer, liver cancer, Crohn's disease, intestinal cancer and lung cancer. All patients had a significant improvement in overall condition, increased body weight, as well as disappearance of symptoms.

Dr. Kresimir Pavelic, Ph.D., Ruder Boskovic Institute, Dept. of Molecular Medicine, Croatia. March, 1998

Zeolite-based anti-diarrheic medication approved by the Cuban Drug Control Agency

Four clinical studies were conducted using a zeolitebased anti-diarrheic medication. In the first study, 18 men and 15 women were each treated with 3 to 6 tablets of zeolite (900mg.) every 3 hours. In the second study, 72 volunteer patients with acute diarrhea were treated with the same dosage in the first study. The third study was a comparative study in which diabetic patients with vascular impairments (neuropathic diarrhea) were either given a zeolite-based anti-medication or an antimotility drug. Due to vascular impairments, recovery of patients must be achieved within 24 hours. The results revealed no significant difference. Further, the study demonstrated that a second dose of the zeolite-based antidiarrheic medication had no adverse side effects, a benefit that the antimotility drug could not boast. In a fourth study, 435 volunteers with acute diarrhea resulting from food poisoning (the main cause of acute diarrhea in adults) were treated with the zeolite-based anti-diarrheic. 75% of the patients recovered from the diarrhea within 24 hours and the remaining 25% recovered during the following 12 hours.

Almost all the patients showed good tolerance to treatment with the zeolite-based anti-diarrheic and none dropped out of the four clinical trails due to side effects.

Rodriguez-Fuentes G., Barrios MA, 1997, Zeolites 19:441-448

Use of Zeolite in various canine tumor treatment

The effects of using zeolite for various canine tumors were performed on 51 dogs. Before the treatment all the dogs received clinical examinations. Zeolite was given to the dogs orally, while affected skin areas were sprinkled with powder.

Mammary gland tumors were tested in 9 females between 6 and 15 years of age. The best results were noted in mammary adenocarcinona. Smaller tumors disappeared after 3 weeks of taking zeolite, while larger tumors had reduced in size by half after 4 weeks.

Tumors of the skin and mucous membrane were tested in 9 dogs between 6 and 12 years of age. After receiving zeolite for a certain period of time, all formations disappeared, but reappeared after zeolite intake ceased. One week after taking zeolite was resumed the formation decreased in size once again.

Prostate tumors were tested in 6 dogs. Within one week of receiving zeolite symptoms had completely disappeared.

The influence of zeolite on lymphoma was tested on 9 dogs. All the dogs had perked up after receiving the preparation for 3 days, and after one week were behaving normally. Their blood count was normal one month later.

Lung tumors in 3 dogs had decreased in size by 50% after one month. Two dogs lived another year.

Bone cancer was diagnosed in 3 dogs and two of the dogs have been receiving zeolite for a year and a half.

With various other tumors, it was confirmed that in all dogs there was an improvement in overall condition.

Dr. Bedric, L. Ph.D. Veterinary Medicine, Zagreb, Croatia 1998

Author's Note: As of this writing, all clinical studies of zeolite have used the powder form.

Powder vs. Liquid

Zeolite is available in a number of different forms, however, not every form provides optimal benefit. It has been shown that the Zeolite powder (taken in capsules) is better than any other form.

Regarding safety concerns, there have been three independent studies comparing the potential of release of heavy metals from the powder form of zeolite and that from the liquid form. They investigated (following FDA protocol) the amounts of heavy metals that are potentially released from zeolite in the stomach. In two of the tests, powdered zeolite was mixed with synthetic gastric fluid and heated for two hours. Results: none of the heavy metals were released, measuring at less than 0.241 parts per million (ppm). By FDA standards, anything less than 3.0 ppm is considered safe for human consumption.

It is important to note that in these tests, one gram of zeolite to 50 ml of synthetic gastric fluid was used. In the human body, the concentration of gastric fluid is much less, therefore there is less breakdown (and potential release of heavy metals) of the zeolite into the body.

A third test was conducted on a liquid form of zeolite. Because the zeolite was in a liquid form which already contained hydrochloric acid, the lab could not use the same criteria for the experiment! Heavy metals had *already* been released. This means that the heavy metals (lead, arsenic, mercury etc.) were *not* bound and were readily available to be absorbed by the body.

Remember that zeolite, a mineral coming from the earth, does have some trace levels of heavy metals. The powder form of zeolite has these trace metals locked and part of the cagelike structure in its molecular infrastructure. They *cannot* be broken down, as the above studies showed. In the liquid form,

however, the molecular structure has been significantly weakened. With the introduction of more hydrochloric acid (i.e. gastric fluid) the heavy metals could leach out into the body. This is, of course, not favorable and will inhibit the chelating ability of zeolite to bind and remove other heavy metals from the body.

Humic Acid

When the immune system is working properly, we remain healthy. However, the immune system can and does become compromised. This may be a result of incessant environmental assaults such as from exposure to pesticides (Agent Orange) and pollutants (Gulf War Syndrome) in the air, food and water, as well as poor nutrition as a contributing factor. When our bodies become overwhelmed the regulatory features of the immune system weaken and become less effective, resulting in leaving the body susceptible to viruses such as: Epstein-Barr, Hepatitis, Herpes, Influenza and AIDS.

Viruses are very small. They are referred to as subcellular organism, meaning they are smaller than cells, smaller than bacteria and certainly smaller than most human host cells. Viruses are so minute they can maintain their ability to infect even after passing through filters small enough to strain out all bacteria. Viruses are intracellular molecular parasites. They enter the body silently, and as in the cases of HIV and Hepatitis C, they often do so without notice, using our cells to manufacture substances needed for their own replication and life cycle. They have no metabolic life of their own outside a host cell, which makes them dependent on living cells for their existence.

There are 4000 known types of viruses, but less than 3 percent are well characterized, with new viruses being discovered regularly. Classification of viruses is based on several criteria, predominantly by the type of nucleic acid (DNA or RNA).

Among the DNA types are viruses that cause:

- chicken pox
- warts
- smallpox
- shingles
- hepatitis B
- common cold
- herpes simplex

5 **(4.**7)

Among the RNA types are viruses that cause:

- yellow fever
- polio
- hepatitis C
- rubella
- HIV
- measles
- bronchitis
- influenza
- encephalitis

There are three locations where viruses typically enter the human body: the respiratory tract (nose, throat and lungs); the gastrointestinal tract (mouth, stomach and intestines); and the genitourinary tract (the sex organs and urinary area). Viruses gain entry into the body via the respiratory tract through inhalation of air contaminated with the virus people have expelled through coughing or sneezing; via the gastrointestinal tract through contaminated food, as in hepatitis A; through sexual intercourse as with HIV and herpes, through the genitourinary tract. In effect, the immune system receives a surprise attack and its response must be appropriately strong enough to eliminate the virus. Often, as in HIV and HCV (Hepatitis C), there is no immediate immune response, as the virus has stealth mechanisms to outsmart the body's natural defenses.

Hope comes from great deposits of animal and plant material (humates) sealed away from wind and rain for millions of years, that have decomposed and then been compressed together by the millions of tons of earth above. This process locks in their seventy-two natural nutrients. Humate is a safe material existing in all soils. It has been around since the beginning of time. Scientists have most appropriately referred to humic acid (which comes from humate) as the antiviral answer. One of the many reasons for the excitement involves the effect that humic acid has in its dramatic ability to penetrate even deadly ultramicroscopic viruses. Viruses encapsu-

late themselves within an impenetrable protein barrier where defense mechanisms cannot reach them. Humic acid puts a coating around the viruses preventing the virus from adhering to a healthy cell. It prevents the virus from reproducing. This is called *viral fusion inhibitors*. The viruses then become vulnerable to attack by the immune system, which is also, strengthen by humic acid.

Benefits from a consistent long-term plan of dietary supplementation of humic acid are:

- increased resistance to colds and flu, infection and disease
- supercharging your immune system
- assists in purging parasites, pathogens and viruses from the body
- restoring your body to its optimum potential over time
- creating an immediate feeling of wellbeing

Humic acid may help as a preventive and a curative for a broad range of viruses, which include:

- Influenza
- Common cold
- Herpes, oral, genital, shingles, Epstein-Barr
- Hepatitis A,B,C
- AIDS
- Warts (Human papilloma virus)
- West Nile
- Yellow fever
- Hantavirus
- Gastroenteritis
- Cervical cancer

Testimonials

"Recently I came down with a very bad case of influenza. Normally this leads to severe respiratory distress. I was given humic acid to take every six hours. Within forty-eight hours all my symptoms were gone. I am very grateful for this product and I will continue to keep humic acid in my house for myself and my animals.

Meg C., Santa Fe, NM

"For the last fifteen years I have lived with genital herpes. About once a month I would expect an outbreak. The medication I was taking was not helping. I began taking humic acid at the suggested dosage and the infection cleared up in a few days. I take a daily dose and I have not had a reoccurrence."

Denise Z., Cleveland, OH

"A year ago I was diagnosed with hepatitis C. A friend suggested I start taking humic acid. I was tested again six weeks later and the results were negative. The doctors could not believe that the hepatitis C was gone. Thank you, thank you."

Gary D., Dallas, TX

Protocol for taking Zeolite:

- Normal adult detoxification use: two (2) capsules twice a day or 1 tsp. powder once a day for at least 90 days
- Normal child detoxification use: one (1) capsule twice a day or 1/2 tsp. powder once a day for at least 90 days.
- Cancer treatment program: six (6) capsules three times a day or 1 tsp. powder three times a day.
- *Diarrhea treatment program:* six (6) capsules or 1 tsp. powder with meals, as symptoms subside three (3) capsules or 1/2 tsp. powder twice a day.
- Hangover treatment program: six (6) capsules or 1 tsp. powder before drinking and/or six (6) capsules or 1 tsp. powder after 3 drinks.
- Protocol for taking Zeolite with Humic Acid:

 Normal adult dosage: two (2) capsules twice a day.

 Normal child dosage: one (1) capsules twice a day.

 For other needs, take four (4) capsules three times a day.

Note: Drink at least 8 glasses of water throughout the day, to ensure adequate hydration.

Frequently Asked Questions about Zeolite

Q: What is a zeolite?

A: Zeolites are natural volcanic minerals that are mined in certain parts of the world. What makes zeolite so powerful, it is one of the few negatively charged minerals found in nature and zeolites have cage-like structure that allows space for large, positively charged ions to be attracted to it, then trapped and eliminated from the body. Note, not all mines are alike. There are different types and purity levels of zeolite at each of these mines throughout the world.

Q: Is zeolite patented in the United States?

A: There is a U.S. patent on the powder form of zeolite for oral use, and there is a U.S. patent on the liquid form for injectable use only.

Q: How does it work?

A: Zeolite has a chelation-like effect in removing heavy metals, pesticides, herbicides, and other positively charged toxins from the system. Zeolite's negatively charged crystalline structure is what makes this possible. Its crystals act as 'cages,' inside of which are positive ions. These positive ions switch places with positively charged toxins in the body, tightly bind them and excrete them completely. The main benefit of binding toxins in this manner is they are 100 percent excreted.

Zeolite's binding power was proven during the Chernobyl disaster, when tons of it were used to remove radioactive cesium and strontium-90 before they contaminated local water systems. Acting primarily as a chelator, zeolite trapped these hazardous materials within its crystalline cage structure.

Q: How long do I need to take a zeolite supplement?

A: Normal protocol is 90 days, however for certain conditions, a longer period of time is suggested. Based on all of the health benefits of taking zeolite, this is a product that needs to be taken daily indefinitely.

Q: Will I go through a "healing crisis?"

A: A healing crisis is when the body's natural defense systems are waging war on the illness itself and are trying to purge the illness from the body. People whose systems are quite toxic may go through a healing crisis. During this time, symptoms may worsen. However, this healing crisis will normally only last a few short days and when over, the body heals very rapidly. Improvements in health will be extremely noticeable. The healing crisis can be uncomfortable but once it has passed people have been astounded at how well they begin to feel. In all cases zeolite has produced positive results that have been observed in a time period ranging from a few days to as many as twelve weeks, normally averaging three to nine weeks. Unlike many other detoxifying products, zeolite seems to have a low or nonoccurence of "health crisis" effects.

Q: When taking zeolite internally, are there any heavy metals released in the body?

A: I have found one of the most pure zeolites and through various tests, that mimic stomach acids, there were no heavy metals released in the body with this powder form.

Q: What is the difference between powdered and liquefied zeolites?

A: Zeolite capsules are a recommended form to take. All the studies that have been done were on a powdered form of zeolite. When zeolite is liquefied, it has a tendency to destroy the structure and makes it less effective.

O: Can I take zeolite with other medications?

A: As far as is known, zeolite has no drug interactions and no side effects.

Q: How can zeolite help the body's immune system combat different illnesses?

A: Zeolite helps balance pH levels in your body, supports a healthy immune system and helps remove heavy metals and other cancer causing toxins from your body.

Q: Can I give this to my pets?

A: Yes. Zeolite is an excellent supplement to aid in detoxifiying animals, especially if they have cancer.

O: What is Humic Acid?

A: Humic acid has been discovered to be a significant miracle of nature. A part of the humate structure of enriched composting soil, it has been the subject of extensive scientific research, and is used now the world over as a dietary supplement to aid the body's ability to maintain overall health.

Q: How can Humic Acid help the body's immune system combat different illnesses?

A: All animal viruses must bind to host cells in order to reproduce. Humic acid has been shown in numerous vitro studies to block this fusion process (including AIDS, Herpes, Influenza and Hemorrhagic Fever). The immune system then eliminates these viruses.

Q: Can I give this to my pets?

A: Yes. Humic acid is an excellent prevention for paravirus, a highly contagious disease for dogs, and West Nile virus in other pet and livestock animals.

"The body is the soul's house. Shouldn't we therefore take care of our house so that it doesn't fall into ruin?" Philo Judaeus

Testimonials

"I recently started taking a zeolite supplement and was sincerely impressed by an immediate detoxification. Last year my doctor had me taking a thyroid medication, from which I had a toxic reaction. When I started taking zeolite, I noticed an immediate reversal of the toxic symptoms I was experiencing."

Nick West, Bakersfield, CA

"I have suffered with IBS for over two years, ever since I contracted salmonella poisoning. Every day since that time I have suffered relentlessly with excessive diarrhea. I have taken large doses of various anti-diarrhea medications with no long lasting relief. I also have been tested for parasites in the stool and many other things without a clear diagnosis of the source.

I just happened to run across information about zeolite and started taking a zeolite supplement. I'm so glad that I dared to try it! It is doing everything that was stated on the information about zeolite. Thank you, thank you!"

Darryl Hackley, Lanham, MD

"I have had a large amount of surgery done due to Crohn's disease, so I only have 38 inches of small bowel left (no large). I take an incredible amount of medication and many times it feels overwhelming. I find taking a zeolite supplement really helps me. My doctor has eliminated most of my medications. I am very grateful."

Cheryl Hevey, Edmonton, Canada

"When I was originally told I had lung cancer (stage 3), it was very hard to hear this diagnosis. I read up on all the information about a mineral called zeolite. I started taking zeolite powder supplement daily and noticed a tremendous increase of energy. Six weeks later, my oncologist told me the tumor had shrunk over 50% and my lungs were clear. Recently (3 months later), my doctor tod me 'no sign of cancer". What wonderful words to hear!"

Julianne Scurry-West, Albuquerque, NM

"In my practice, I use zeolite to manage a variety of conditions, including lowered immune function, chronic or recurring infections, autoimmune diseases, candida, influenza, and Crohn's disease."

Diane Polasky, D.O.M. Albuquerque, NM

"I have had a fungal infection in my toenails for over 39 years (thanks to the Vietnam War) and tried many natural products. Since taking zeolite, there is a noticable difference in my toenails. I am very pleased on how this product is working in my body. Of course, the by-product of the heavy metals being eliminated is also terrific."

Brian Larry, Los Angeles, CA

"I have been suffering from Chronic Fatigue Syndrome for many years. Last year I was also diagnosed with Irritable Bowel Syndrome. My doctor told me that heavy metals and other toxic chemicals, that I may have been exposed to, can weaken the immune system. I started taking a powder form of zeolite and immediately noticed a difference in my digestive system. I felt better, more energy, and no diarrhea problems. Recently I was tested for heavy metals in my body. The results were absolutely wonderful. There wasn't any sign of heavy metals."

Michael Porter, New York City, NY

Conclusion

Since 1997, scientists, doctors and medical researchers in Croatia, Austria, Germany and the United States have performed extensive studies that have confirmed the benefits of using zeolite in a wide variety of health applications. It is being researched just how zeolite may assist in the production of tumor suppressor cells and immune system helper cells, which are known to strengthen natural immunity. We are faced with a number of health challenges today. Zeolite is an exceptionally powerful antioxidant capable of cleansing the body of free radicals and heavy metals.

Medical studies show that difficult respiratory illnesses are readily resolved with humic acid dietary supplementation. Humic acic has the power to protect against cancer and tumors using special humic substance therapies. Combining humic acid (with its viral fusion inhibitor) and zeolite (powder), synergestically make a perfect way to create homeostasis in the body.

Resource Directory

Zeolite supplements are available in a variety of forms; however, not every form provides optimal benefit.

Below is the source I recommend:

Zeo Health

www.zeohealth.com

(845) 353 5185

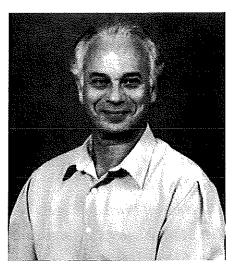
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About The Author

Dr. Howard Peiper, N.D.nominated for a Pulitzer
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Each year, people all around the world are exposed to thousands of toxic chemicals and pollutants in air, water, food and soil. Too many people carry within their bodies a chilling "chemical cocktail" made up of food additives, industrial chemicals, heavy metals, and the residues of pharmaceuticals and illegal drugs. To assure we maintain a state of good health, these toxins must be dealt with.

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- Binds mycotoxins, forming stable complexes
- Aid in heavy metal and chemical detoxification
- Binds radioactive compounds
- Stabilizes and regulates immune system
- Reduces side effects of chemotherapy/radiation
- Reduces hangovers

