

Hidden Allergies Hamper Students and Staff

Because our world is increasingly affected by chemical and natural pollutants, schools need to take extra precautions to ensure a healthy learning environment.

DON GLINES AND JOSEPH MCGOVERN

Junior high math: Carlos has his head on folded arms on his desk and can barely keep his eyes open. For the third day in a row, the instructor admonishes Carlos to sit up and pay attention. For the third day in a row, Carlos misses the point of the instruction.

A 4th grade room: Betsey, who sits in the front, has just finished erasing the blackboard and receives a pat on the back from her teacher. Suddenly, Betsey is overcome by rapid-fire sneezes, and recognizes the familiar growing heaviness around her nose and eyes. Twenty minutes later, Betsey is in the nurse's office, asking permission to lie down until the throbbing in her head stops.

The chemistry lab: Lena Karloff is feeling dizzy and is afraid she may have to leave her students alone again. Although the vertigo soon subsides, she is still nauseous. When a student accidentally breaks a petrie dish and laughs to

cover his embarrassment, Mrs. Karloff snaps at him, orders him out of class, and assigns extra homework to everyone.

Drafting class: Paul, sitting at the back of the room, suddenly jumps off his stool and begins pacing and scratching his arms. When his teacher demands to know what is wrong, Paul is at a loss for words. How can he explain his behavior and the "rush" he's feeling without sounding like he's on drugs?

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Carlos, Betsey, Mrs. Karloff, and Paul all share a common problem—oversensitivity to something in the environment. Both Carlos and Paul are feeling the effects of over-the-counter pills they have taken to alleviate the symptoms of whatever it is that causes the light-headedness, itchy eyes, and sneezing every morning. Carlos, who swallowed his pill just a half hour ago, will remain lethargic for several more hours. The beneficial effects of the capsule Paul took when he got out of bed have started to wear off. Now he's hyper and won't be able to settle down for at least another hour. Betsey, of course, hasn't taken anything, but she'll be okay as long as she's with the nurse, away from the dust of the chalkboard, the teacher's strong perfume and the flowers on her desk, the wax on the classroom floor, the ink from mimeographed worksheets, and the fresh paint in the hallway. It's likely, however, that her headache will progress to a

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migraine, as often happens when she has eggs for breakfast. Lena Karloff, too, will be fine, once she goes outside. After spending several hours in the chemistry lab, all she needs is some fresh air. Unfortunately, the windows in the lab won't open, having been sealed to conserve energy.

Allergies have been an acknowledged medical phenomenon for decades. Unfortunately, allergic reactions are not always diagnosed as such. In schools, students and teachers who seem hyperactive, fatigued, irritable, depressed, lazy, or slow are often regarded as having emotional, learning, or discipline problems. Delving deeper into their symptoms, we will find that many of these individuals are suffering from hidden food, chemical, and inhalant allergies.

In a typical school district, 25 percent of the school population may have illnesses and serious physical and mental conditions that are allergy-based. Whether or not these individuals know the causes of their symptoms, they need special medical assistance and major changes in their home and school environments.¹ A second 25 percent of the school community may be bothered enough to cause concern. A third quarter of the students and faculty may have occasional allergic reactions; while they are not consistently uncomfortable, they do have “bad days.” Only the final 25 percent are not at all bothered by allergic symptoms.

Causes and Cures

New diagnostic techniques are revealing the growing numbers of people who are affected by allergic and sometimes toxic reactions. Combinations of chemicals, foods, inhalants, yeasts, phenolic compounds, and hereditary factors are responsible for accelerating breakdowns in the human immune system, which trigger allergic attacks. Though natural inhalants are still regarded as major causes, most allergies today seem to stem from the increasingly synthetic environment.

The use of toxic compounds has doubled in the last 20 years; there are currently over 100,000 in common use in the United States.² Chemical additives are in most all commercially purchased canned, frozen, and processed foods, and in fresh foods from spraying and waxing. Acid rain and the aldehydes in smog illustrate their increasing presence in the atmosphere. The research in phenolic compounds, yeasts, and “T” and “B” cell lymphocyte interaction is beginning to better explain the interrelated role of these factors in inhalant, food, and chemical reactions.

Clinical ecologists have demonstrated that such physical, mental, or emotional problems as hyperactivity, migraine headaches, depression, fatigue, irritability, drowsiness, internal organ malfunctions, tension, arthritis, asthma, alcoholism, skin rashes, gastrointestinal ailments such as constipation and diarrhea, spaciness and dizziness, nausea, muscle pain, autism, schizophrenia, temporary hoarseness and speech slurring, and some mouth, eye, ear, and nose problems can be triggered by allergic reactions.³

There are other important causes for these ailments, such as tumors, stress, and infections. These possibilities are always evaluated medically before an immunologic cause can be attributed to a particular symptom. Further, “hay fever” may be a concern for an individual only when near a wheat field at harvest time—a dilemma cured by avoiding the area. However, if these factors are ruled out or are treated without significant relief to the individual, then other etiological factors, such as sensitivity to foods, chemicals, inhalants, phenolic compounds, and yeasts should be considered.

As an illustration, hyperactivity, or hyperkinesis, is a fairly common problem that plagues students and their families and schools. One clinical study

determined that phenolic food compounds produced hyperkinetic reactions three times more frequently than foods and inhalants.⁴

Of interest to schools and parents is that in the same study, 80 percent of the students who were classified as hyperactive reacted positively to salicylate (found in many fruits and tomatoes, and in aspirin—thus confirming the earlier hypothesis by Feingold).⁵ Fifty percent reacted to dopamine, norepinephrine, and histamine. Forty percent reacted to coumarin, a phenolic compound found in bananas, barley, beef, carrots, cheese, chicken, cinnamon, chocolate, corn, eggs, lamb, lemons, lettuce, oranges, peas, plums, potatoes, rice, soybeans, sugar, tapioca, tomatoes, tuna, turkey, wheat, and yeasts. Students can be overwhelmed by common meal combinations and never know why without the phenolic testing.

Among the foods showing positive reactions for students classified as hyperkinetic were sugar (30 percent) and corn, eggs, and beef (25 percent each). Previous studies indicated that food coloring, milk, cocoa, and wheat were also among the foods commonly showing positive relationships with hyperactivity.⁶ Cat hair and house dust affected 25 percent of the students tested.

Further, and perhaps more startling and important for schools, was that 70 percent of the hyperactive youth were positive toward hydrocarbons: phenols, ethanols, and formaldehydes. This suggests that reducing hydrocarbon, formaldehyde, and ethanol pollutant levels in the atmosphere in schools is essential in preventing allergic reactions. Yet because of architectural and economic considerations, school windows are being sealed to save energy. This is a serious concern to health officials. As one example, such combinations of pollutant levels at an Oakland, California, high school resulted in illness to many students and teachers. Improved ventilation in most modern school buildings is essential if increasing incidences of illness are to be prevented.⁷

Clean Your Room: A Compendium on Indoor Air Pollution exposes the seriousness of indoor air pollution in schools, homes, and offices by stating that there is increasing evidence that many modern buildings are damaging the health of the people who live and work in them.⁸ Three other recent publications provide further supporting evidence.⁹

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Schools Can Help

Armed with this indoor air information, and the additional new knowledge of foods, phenolics, and inhalants from the fields of clinical ecology and environmental illness, schools can begin to better address health needs of their students.

Conventional immunization injections, long used in defense against such common irritants as weeds, grasses, trees, pollens, house dust, and animal danders, have proven to be only partially helpful for those who have allergies to foods, yeasts, chemicals, and phenolics, as well as pollens. The injections themselves contain phenol as a preservative. Recent studies have shown that phenol is toxic to the immune system of many patients.¹⁰ It is only one of many treatment substances that may be harmful. Physicians in the fields of environmental and ecological illnesses who have researched new approaches to allergy prevention, testing, and treatment oppose the use of drugs unless there is little choice.¹¹ Instead, they advise patients to avoid the offending substances as much as possible. For children, this requires the cooperation of school staff members.

Most people who suffer from food and chemical allergies should avoid frozen, canned, and processed foods, and chemically treated meat and produce. Related to foods is the instigation of a four-day rotation diet, where no single food is eaten more than once in four days. For chemically sensitive patients, the removal of gas stoves, carpets, and wallboard; the elimination of cars in attached garages; and the restricted use of synthetic drapes, curtains, blankets, and clothes in the home environment, resulting in a significant reduction in the hydrocarbon content of the breathing atmosphere, may provide marked clinical improvement. The avoidance of hydrocarbon-based products—such as hair sprays, shampoos, and lotions; perfumes; shaving creams; all cosmetics; soap with scent; soft plastics; chlorinated water; fertilizers; waxes and polishes; newspapers; paints and varnishes; book covers; and nasal sprays—is very important. Other disease-producing contaminants may include such natural and synthetic pollutants as tobacco; wood smoke; chlorine; grasses and weeds; cedar, oak, eucalyptus, and other troublesome trees; animal danders; high hu-

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midity; scented flowers; pesticides; and airborne residues from oil refineries and chemical plants.¹²

Even vitamins and minerals must be individualized, as each human needs different amounts. Supplements with corn, yeast, wheat, sugar, soy, and coloring generally should not be used. The many allergy patients who are highly mold-sensitive should remove yeast and yeast-related products from their homes and diet.¹³ Nutritional therapy is a major breakthrough in the prevention and treatment of allergic reactions.¹⁴

People who suffer from migraine headaches usually benefit from avoiding all alcohol, wheat, corn, milk, sugar, cheese, chocolate, oranges, peanuts, and pork; and sometimes most fish, peas, other grains, soybeans, and food additives and coloring. These foods are most associated with migraines, though any food or combination of foods, chemicals, and inhalants may trigger an attack.¹⁵ Ultimately, for medical guidance in coping with and shaping their daily environments, students and staff members with allergies or suspected allergies often need to consult a clinical ecologist for a personal diagnosis and prescription. Individual tests include those for approximately 175 foods; 25 phenolic compounds; over 50 chemicals and inhalants; extensive blood analysis for "T" and "B" lymphocyte cell counts; amino acid metabolism; and evaluation of possible yeast infections.

Allergies often run in families; thus, others as well as the individual with the symptoms may have similar but less evident reactions. Of further interest to school districts are data indicating that the largest numbers of patients currently being treated in allergy clinics come from the teaching and computer technology fields.

What Schools Can Do

The implications for educators of the research by clinical ecologists are extremely significant. For students and staff members with allergies, schools can design and implement major changes in policies and practices. Some possibilities are:

1. Inform students and staff members who use perfumes, heavily scented cosmetics, deodorants, sprays, and tobacco about how they affect others and urge that they be used sparingly in the building. Cosmetics are phenols, which, like tobacco smoke, are toxic to chemically allergic persons.



2. Modify the health, home economics, and biological science curricula to reflect new medical findings related to immune system dysfunctions, environmental illnesses, daily exposure to common chemicals, and allergies.

3. Ensure that the school lunch program offers options to allow students to avoid wheat, corn, milk, sugar, cheese, colorings, and additives. Cooperate with families who need to have home-prepared lunches refrigerated.

4. Remove candy, gum, snack, and soft drink machines containing heavily processed foods containing sugar, coloring, additives, wheat, corn, and other products offensive to the allergic patient. Provide a wide variety of nonprocessed snacks.

The key is choice. Milk, wheat, apples, nuts, and other "wholesome" foods are not good selections for many students. To support the reduction of

sugar, recent studies have shown that removing refined sugar from the diet of juvenile offenders was followed by a significant reduction in violence and other antisocial behaviors.¹⁶

5. If possible, provide separate restrooms for allergic students—free from cigarette smoke, chemical deodorants, scented soaps, strong cleaning solvents, and students who use hair sprays, perfumes, nail polish, and other related products.

6. If possible, include in the library/media center a small, well-ventilated room, preferably with windows and wooden tables and chairs without carpeting (use hardwood or nonporous ceramic floors), particle board shelves, or paneling. Such a room is cost-effective: any student can use it, including those with "hay fever" from dust, molds, and hydrocarbons.

7. Permit students who have allergies

to sit away from students who insist on wearing scented products and away from forced air heating and cooling vents, chalkboards, art storage areas, book depositories, and indoor plants and animals.

8. Use toxic cleaning solvents, waxes, and polishes (especially those with a scent—phenols) sparingly. The stronger the smell, the more the ingredient should be avoided.

9. Reduce the use of magic markers and ink pens; eliminate the most toxic paints and varnishes from art and shop classes; and ventilate freshly painted rooms before using them. When painting, generally use only odorless alkyd-based paints.

10. Study the research on indoor air pollution and follow the recommendations related to indoor environments. The implications for the long-term health of students are so significant that they should not be ignored, or put aside until another budget when money might be available.

11. Provide distilled water in glass, not plastic, containers; allergic students usually should not drink chlorinated tap water, nor should they use chlorinated swimming pools any more than essential (to learn self-preservation water skills), if chlorine can be tolerated for short periods of time.

12. Provide information to parents and students regarding their home and school environments. It is difficult to change the habits of teenagers who are caught in the social routines of the culture—unless they realize the urgency. Changing their patterns in preschool and elementary years is easier and provides an earlier start to improved health and the reduction of allergies throughout life.

Hidden allergies debilitate many students, staff members, and their families. There is hope for the future: the research now being conducted by allergists, immunologists, and orthomolecular physicians may soon provide the key to the prevention and cure of most allergy-related discomforts and diseases. Meanwhile, schools can assist better than they have in the past those children and youth who suffer from the consequences of hidden, unsolved, or special treatment allergic conditions. □

¹An interpretation from studies, surveys, and opinions by a number of clinical ecologists, including Richard Mackarness. *Living Safely in a Polluted World* (Briarcliff Manor,

N.Y.: Stein and Day, 1980); Theron Randolph and Ralph Moss, *An Alternative Approach to Allergies* (New York: Lippincott and Crowell, 1980); William Philpott and Dwight Kalita, *Brain Allergies: The Psycho-Nutrient Connection* (New Canaan, Conn.: Keats Publishing, 1980); Doris Rapp, *Allergies and the Hyperactive Child* (New York: Simon and Schuster, 1980); Marshall Mandell, *Five-Day Allergy Relief System* (New York: Pocket Books, 1979); and Alfred Zamm and Robert Gannon, *Why Your House May Endanger Your Health* (New York: Simon and Schuster, 1980), among others.

²Lewis Regenstein, *America the Poisoned: How Deadly Chemicals are Destroying Our Environment* (Washington, D.C.: Acropolis Books, 1982).

³Philpott and Kalita, *Brain Allergies: The Psycho-Nutrient Connection*.

⁴Joseph McGovern, Doris Rapp, and Robert Gardner, "Natural Foodborne Aromatics Induce Behavioral Disturbances in Children with Hyperkinesis" (presented at the Academy of Pediatrics Annual Meeting, New York, October 1982).

⁵Benjamin Feingold, *Why Your Child Is Hyperactive* (New York: Random House, 1975).

⁶Rapp, *Allergies and the Hyperactive Child*.

⁷Letter from R. Leonard Vance, Director, Health Standards Program, Occupational Safety and Health Administration, May 1982.

⁸*Clean Your Room: A Compendium on Indoor Air Pollution* (Sacramento, Calif.: Department of Consumer Affairs, 1982).

⁹Zamm and Gannon, *Why Your House May Endanger Your Health*; Guy Pfeiffer and others, *The Household Environment and Chronic Illness* (Springfield, Ill.: Charles Thomas, 1980); Francis Golos and others, *Coping With Your Allergies* (New York: Simon and Schuster, 1979).

¹⁰Joseph McGovern, "Apparent Immunotoxic Response to Phenolic Compounds," *Food and Chemical Toxicology* 20 (1982).

¹¹Theron and Moss, *An Alternative Approach to Allergies*; and Mandell, *Five-Day Allergy Relief System*.

¹²Alan Levin and Merla Zellenbach, *No More Allergies* (Boston: Houghton Mifflin, 1983).

¹³Orian Truss, "Restoration of Immunologic Competence to Candida Albicans," *Journal of Orthomolecular Psychiatry* 9 (November 1980).

¹⁴Carl Markwood, "Nutritional Support for Clinical Allergies," *Let's Live Magazine* (August 1982).

¹⁵Robert Eagle, *Eating and Allergy* (New York: Doubleday, 1981).

¹⁶Stephen Schoenthaler, "The Effect of Sugar on the Treatment and Control of Anti-Social Behavior," *International Journal of Biosocial Research* 3 (1982); and Alfred Schauss, *Diet, Crime, and Delinquency* (Berkeley, Calif.: Parker House, 1980).

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