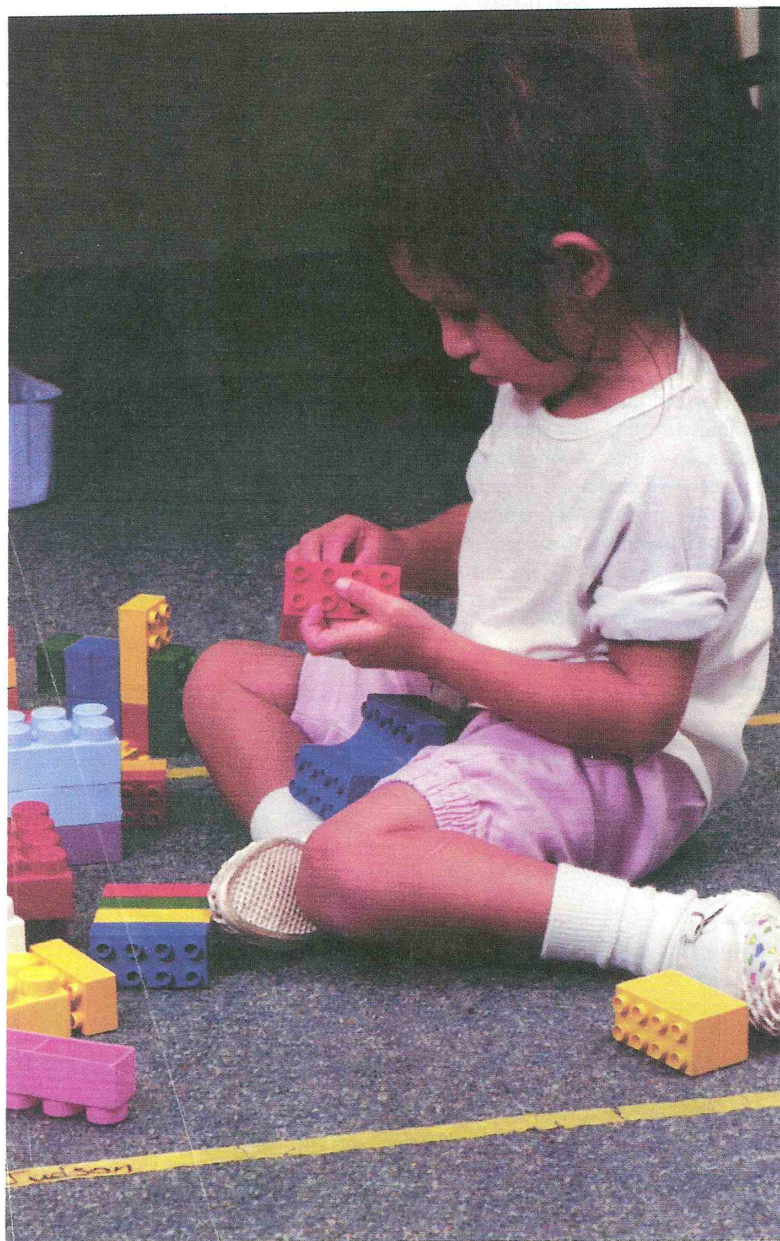


# Giving Carpets A Seco

## The Effects of Carpeting in Our Schools

By Ellie Goldberg, MEd



Many of us remember the highly polished linoleum or wood floors in the schools we attended as children. This is, in large part, a thing of the past. Today many classrooms are carpeted, as are many of the schools' high-traffic areas, such as hallways. Over the last 20 years or so, carpets have been sold to schools as a way to achieve cost savings and noise reduction. However, carpets bring with them a host of issues that were not foreseen; carpets create maintenance nightmares and the potential for serious health problems.

### **Chemical Irritants and Allergens**

Carpets may seem an attractive floor covering, but they are, in fact, a source of irritants and allergens that trigger inflammatory diseases, such as asthma, rhinitis and sinusitis for students and staff. Chemicals used in the manufacture of carpets and carpet backings can emit irritating fumes into the air. Carpets also off-gas fumes from fire retardants, pesticides and anti-fungal treatments, and the glues and adhesives used during installation.

People with allergies and asthma are particularly sensitive to the chemicals used in carpet manufacturing and installation. They are also affected by the potent allergens that carpets harbor—mold, dust mites, and even cat dander that comes into the school on children's clothing and gets deposited into the carpets.

### *Mold Allergens*

When carpets become wet or damp (which they often do as a result of leaks, floods, spills, high indoor humidity levels, or when installed directly on concrete floors), they become the ideal breeding ground for mold. Once mold begins to grow in the



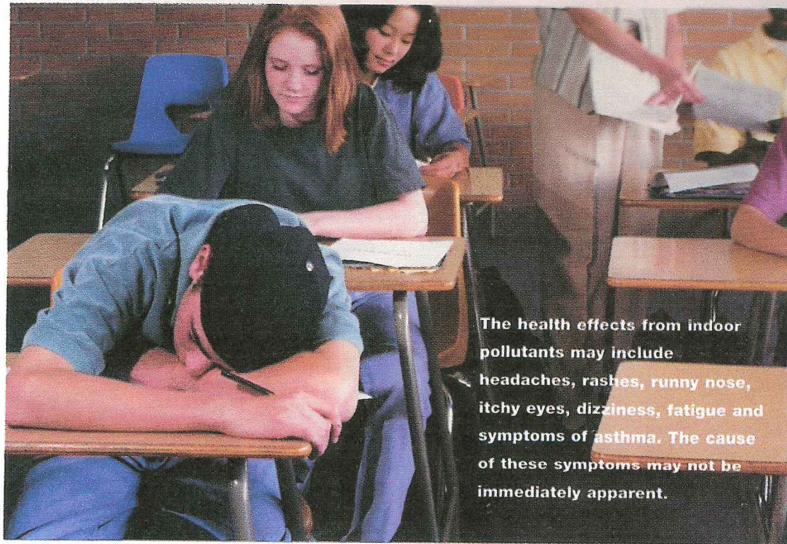
# Old Thought Part 2

carpets, there is little that can be done to remove it; the carpets must be taken out. This was the experience recently in a Connecticut elementary school. The school experienced a flood due to some roofing work that was being done. Carpets were soaked, leading to rampant mold growth. According to news reports, following the flood two children were hospitalized with severe allergic reactions and dozens of people were ill. School officials at first closed only the library and one classroom. When this failed to solve the problem, however, further investigation found high mold levels throughout the building. The school had to be closed and classes relocated.

## Dust Mites

Dust mites also thrive in moist environments, and carpets are one of their favorite habitats. Once carpets become infested with dust mites, the mites' waste and dead bodies accumulate. These are extremely potent allergens for people with asthma and allergies.

In many cases, when people suffer health effects from indoor pollutants, such as those in carpeting, they don't realize the source of their problems. They may attribute headaches, nose-bleeds or skin rashes to other causes. They may attribute episodes of dizziness, fatigue or irritability to stress, lack of sleep, or "whatever is going around." The cause of asthma flares and other allergic symptoms may not be immediately apparent. Another reason the source of the problem may be elusive is that all occupants are not affected the same way by the contaminants. Some may be highly affected, with various severe symptoms, while others in the same environment may not be affected at all, or their symptoms may



The health effects from indoor pollutants may include headaches, rashes, runny nose, itchy eyes, dizziness, fatigue and symptoms of asthma. The cause of these symptoms may not be immediately apparent.

have delayed onset.

## Maintenance Challenges

Most schools are poorly ventilated and inadequately maintained. Even with the best intentions, few schools can meet the design, maintenance and ventilation criteria necessary to consider carpets a good flooring choice. In a recent report on indoor air quality problems in a Connecticut school district, 68 percent of schools, both old and new, had air-quality problems. Schools typically turn off ventilation and air conditioning at night and on weekends. Poor air circulation allows for the build-up of moisture in the indoor environment.

Carpeted classrooms are typically crowded with desks and other furniture. Schools do not have the staff to move furniture to effectively vacuum the carpets on a daily basis as recommended by the Carpet and Rug Institute, the national trade association of the carpet industry. School

vacuum cleaners are often inefficient at capturing dust and thus send it back into the air of the classroom.

It is impossible to adequately clean carpet, concluded Eugene Cole, in his report, "Floor Coverings in Schools: An Assessment of Cleaning and Health Issues," (*Installation and Cleaning Specialist Magazine*, August 1998). "Across the country, school districts are finding the economics of building, operating and maintaining school facilities to be a monumental challenge," Cole states. "The care necessary to maintain carpet becomes compromised. When combined with moisture problems, it renders a car-

*A Parent's Perspective: "I don't think people understand [the carpet problem] from a child's point of view. It is really a handicap! Think of all the children who go to school day after day, with nasal or lung congestion, runny noses, breathing problems, coughing, headaches and fatigue."*

pet a significant potential pollutant reservoir that may increase the risk of health effects to students and staff."

The following is one school's experience but, unfortunately, one that is becoming a typical story. A middle school's maintenance crew



cleaned carpets shortly after school let out for the summer. The ventilation system was then turned off. The carpets weren't able to dry properly and quickly became contaminated with mold. Parents are now suing the school district, alleging that the moldy air made their children sick. The district approved a three-year, \$540,000 plan to remove carpets in 27 schools.

### Acoustics

One argument often made in the defense of carpeting in schools is that they reduce noise levels. In fact, carpet is often written into special education plans as a way to meet the needs of students with hearing impairments. Unfortunately, carpeting in classrooms sometimes creates conflicts between the needs of students with asthma and allergies and those with hearing impairments. Luckily, there are healthier alternatives to carpeting that meet the needs of hearing-impaired children and protect the health of students with asthma and allergies. Specialists in design and acoustics point out that

suitable wall and ceiling materials as well as room shape and ceiling height can have a far greater impact on noise control than carpeting on floors. One simple, inexpensive solution to reduce noise in today's busy classrooms is the use of old tennis balls attached to chair and table legs to muffle the abrasive noise when furniture is moved.

### Cost Concerns

With today's tight school budgets, carpeting is often defended as a cost-saving measure. Upon closer examination, however this appears not to be the case. Mary Oetzel, of Environmental Education Health Services, Inc., studied the floor covering alternatives in more than 462 schools in five states. She found that the initial installation of carpet costs 36 per-

cent less than the installation of vinyl floors. But when life-cycle costs (materials, installation and maintenance, life-span, and replacement) were factored in, hard-surfaced, durable, easy-to-maintain floors, such as ceramic tile and terrazzo, ended up costing less than carpets.

### In Conclusion

Carpeting in school buildings can be a poor choice for many students and staff. It can be a particular problem for children with asthma and allergies, for they experience the most health effects. Carpeting can cause them multiple symptoms and overall deterioration in health, contributing to a high rate of interrupted school days and absences. All children have the right to be comfortable and healthy in school so they can focus on what they are there for—learning. Therefore, when

*A School Nurse's Perspective:  
"Anyone responsible for maintaining universal health precautions in a day care or school setting knows it is impossible to sanitize a school carpet. Where you have kids you have urine, vomit and blood. You have wet boots. There are daily milk and water spills.... Carpets are a nightmare."*

*A Student's Perspective:  
"Allergies make you feel horrible. Sinus and lung congestion, headaches, runny nose, breathing problems, sore throat, coughing and fatigue make it difficult for you to concentrate. Being sick affects your behavior.... Some medicines you take make you sleepy, doopey, irritable, disoriented or hyper, which affects your concentration. If you are absent from school, you get behind in your work and miss the teacher's instruction."*



A simple solution to reduce noise in a classroom with a hard surface floor is to place old tennis balls on the bottom of table and chair legs.

problems arise, school officials must act promptly to remove sources of illness, such as carpeting, from the school environment to protect students and staff alike.

*Ellie Goldberg, MEd, is the founder of Healthy Kids: The Key to Basics, based in Newton, Massachusetts, an educating consulting service specializing in the needs of students with asthma and other chronic conditions.*

*Editor's Note: "Giving Carpets a Second Thought Part I" appeared in the November/December 2000 issue of Asthma Magazine.*



