

Myths of Exposure

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A “Practice Pearl” helps an allergist-immunologist practice more safely, effectively, timely, efficiently, equitably, or in a more patient-centered way. This feature is coordinated by Stuart Abramson, MD, Giselle Mosnaim, MD, and Andrew Murphy, MD, from the AAAAI Federation of Regional, State, and Local Allergy, Asthma, and Immunology Societies Assembly and by Editorial Board member Matthew Rank, MD. More information about submitting a “Practice Pearl” can be found on our web site (jaci-inpractice.org).

Assessing and modifying exposures that cause allergic and immunological diseases is a core competency of our specialty. Sometimes, however, a patient’s concepts of exposure are surprising, and quite nonscientific. To better manage patient expectations, it is important to understand some commonly held, but rarely discussed, tenets of exposure that many patients believe.

PRACTICE CHALLENGE

The first is the “Bucket Theory of Toxin Exposure” (Figure 1). This holds that the human body is a repository of toxins, gradually filling with different, deadly environmental contaminants, analogous to the thermometer model of fund-raising. The environment is seen as dangerous, and external deleterious elements, such as plastics, petrochemicals, heavy metals, air pollution, pesticides, mold toxins, or others, will lodge in the body and cause persistent disease. Gradually, the patient becomes filled with toxins, and, at that point, becomes ill.^{1,2} Treatment, therefore, must detoxify the body of *all* the stored toxins, and involves a thorough decontamination, chelation, elimination, eradication, or purification program. Everything must be expunged if the patient is to become well again.

The second concept is the “Ethereal Gasification of Exposure” (Figure 2). This presumes that every object is surrounded by an invisible cloud of eluted and ejected molecules or allergens that are as dangerous as the object itself. Interaction with the cloud will cause disease, even if the object itself is not touched directly. Latex is a common example.³ Peanuts are another.⁴ Thus, if someone is allergic to latex, then interaction with the small cloud of latex allergens surrounding objects such as pencil erasers or blood pressure cuffs can cause symptoms and even anaphylaxis. Similarly, a packet of peanuts on an airplane is inimical to a

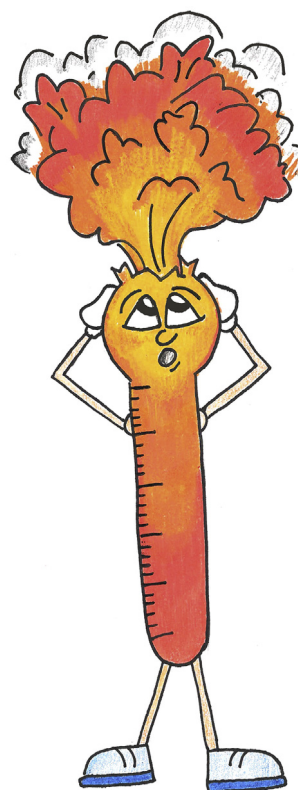


FIGURE 1. Bucket theory of toxin exposure. Drawing by Jenna Wolff (used with permission).

peanut-allergic child sitting rows away. This concept makes the world a dangerous place for such patients. It becomes impossible to predict the clouds of molecules that a person may inadvertently contact in the course of a day, making the possibility of disaster always just around the corner.

PRACTICE SOLUTION

I have found these concepts to be held by a number of patients, and underlie their expectations of disease, exposure control, and treatment. Directly addressing these concepts can be very reassuring, as well as necessary to establish a therapeutic alliance.

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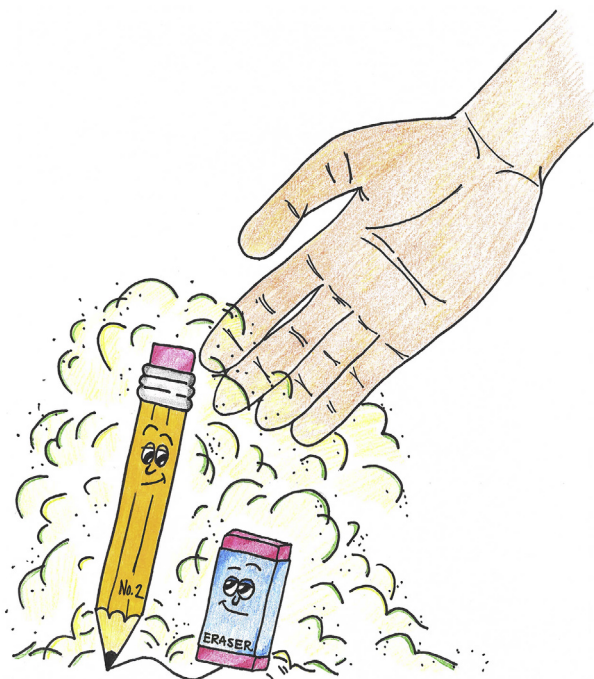


FIGURE 2. Ethereal gasification of exposure. Drawing by Jenna Wolff (used with permission).

Patients have to trust your description of exposure in order to have faith in your treatment plan. Many patients are surprised to learn that the body is actually designed to rapidly break down many chemicals and biological invaders, which under normal circumstances do not take up residence within. Mold is a particularly good example, where patients think that by inhaling mold spores, they are setting up a petri dish in their lungs for mold growth and propagation. More understanding of the

microbiome, and the beneficial health effects of the right bacteria and fungi, is helping to dispel this myth. Then too, the fact that there are close to 8 billion of us here on the planet today suggests that our biological systems are more designed for survival than for disease.

Assurance that avoidance of direct skin contact is enough to keep an allergic patient safe from environmental allergens also helps make patients and parents less vigilant. This is true both for airborne peanut allergens from opened airline peanut packets (oral communication, D. Atkins, MD, 2017) and in schools.⁵ In a hospital setting, in which powdered latex gloves had been used for many years, the levels of airborne latex became undetectable with the exclusive use of nonpowdered latex gloves.⁶ Thus, the presence of nonpowdered latex gloves alone did not cause a detectable latex exposure. In this instance, studies reporting actual measurements of allergens or bioaerosols provide the best evidence of lack of exposure. There will always be a few patients who remain convinced that health is available only at the price of eternal vigilance. For most, however, a small dose of science can go a long way.

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