Relax, Your Child Won't Die from Airplane Peanuts

By Alex Berezow, PhD — November 15, 2016

On my recent flight to New York City, an attendant announced that a passenger had a severe peanut allergy. If any of us had brought food containing peanuts, it was requested that we put it away for the entire flight. I poked fun at this on my Facebook page, after which I was castigated for my insensitivity and lack of compassion.

"It's the recirculated air," one person said.

"It can be ingested through particles circulated in the air," chimed in another.

A teacher weighed in, too: "A child in my class... went in to shock after touching the same door knob that someone who had... peanuts had touched earlier."

No, that's not how it works. The apparently widespread belief that recirculated peanut-tainted air can kill unsuspecting children is based on several myths.

**Myth 1: Airplane air is recirculated.**

Airplane air is fresh and probably cleaner than office air. According to io9 [2]:

> [T]he air you breath [sic] on a typical airplane flight is thoroughly clean... Yes, the fresh air from outside the plane combines with some air that's already been making the rounds in the cabin for a little while — but that circulating air started out as fresh external air itself, and it too has been cycling through HEPA filters. What's more, recirculating cabin air is continuously released from the plane via outflow...
valves, so air inside the plane is constantly being replaced by the fresh air from outside. In fact, the average airplane’s cabin air is completely refreshed about **20 times per hour**. By comparison, the air in your average office building (which is also typically HEPA-filtered) is refreshed just 12 times per hour. [Emphasis added.]

And those HEPA filters are pretty effective. They "remove a minimum of 99.97% of any airborne particulates, bacteria and viruses."

**Myth 2: Just a whiff of peanuts can trigger an allergy.**

The molecules responsible for the scent of peanuts and the ones responsible for allergies are not the same. Dr. Ham Pong, a pediatric allergist, writes at *Allergic Living* [3]:

> You can be assured that anaphylaxis to airborne food particles is very rare. **An allergic reaction to food will not occur because someone is eating it in a classroom or vicinity of the allergic person.** [Emphasis added.]

He does go on to say that if everybody on an airplane started opening packages of peanuts, then that could be a concern:

> The only exception to the above is if peanut protein itself is in the air that you breathe. If a peanut allergic person breathes enough of the peanut protein in the air, the person can have a serious allergic reaction, asthma attack or anaphylaxis. Situations in which this are unusual but can happen. For instance, if a large number of people are opening packages of peanut at the same time – e.g. when peanut packages served on an airplane – and the peanut protein dust gets into the air in an enclosed space.

So, this would justify an airline opting to not serve peanuts to all passengers on an airplane. But it certainly does not justify telling people to put their Snickers bars and PB&J's away.

**Myth 3: Touching peanuts or a peanut-contaminated surface can trigger an allergy.**

Certainly, prolonged skin contact with peanuts can trigger an allergic reaction. (People treated for peanut allergies using special **skin patches** [4] often will develop rashes.) However, brief contact is unlikely to cause anything, unless some peanut particles are eaten or inhaled or come into contact with the eyes. Again, Dr Pong writes:

> Allergic reactions to peanut occur mostly when the peanut enters the body, either by licking it, tasting it or eating it – for instance, bringing it to your lips, mouth
directly, or indirectly by transferring it from your hands or other people’s lips to your mouth or eyes. Therefore, it is important to realize that severe allergic reactions or anaphylaxis to peanut generally occur with eating or tasting peanut, and not by touching or smelling it. [Emphasis added.]

Don't Go Nuts

What explains the widespread misconception that people with peanut allergies can suffer a reaction by smelling or briefly touching peanuts? One possible explanation is the nocebo effect, the evil twin of the placebo effect. In the nocebo effect [5], a person who knows that a drug may have side effects is likelier to report those side effects. Similarly, a person who is anxious about peanuts may begin to feel bad, simply because he knows there is a peanut in the vicinity. It really is possible to worry ourselves sick [6].

Consider the following: It is physically impossible for people to have an allergic reaction to wi-fi. Yet, some people are convinced they suffer from "electromagnetic hypersensitivity [7]" that causes headaches and rashes. But they don't. It's all in their head.

Also, airlines are probably willing to submit to over-the-top demands, particularly by parents, because they don't want to get sued in the incredibly unlikely event somebody has an allergic reaction.

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