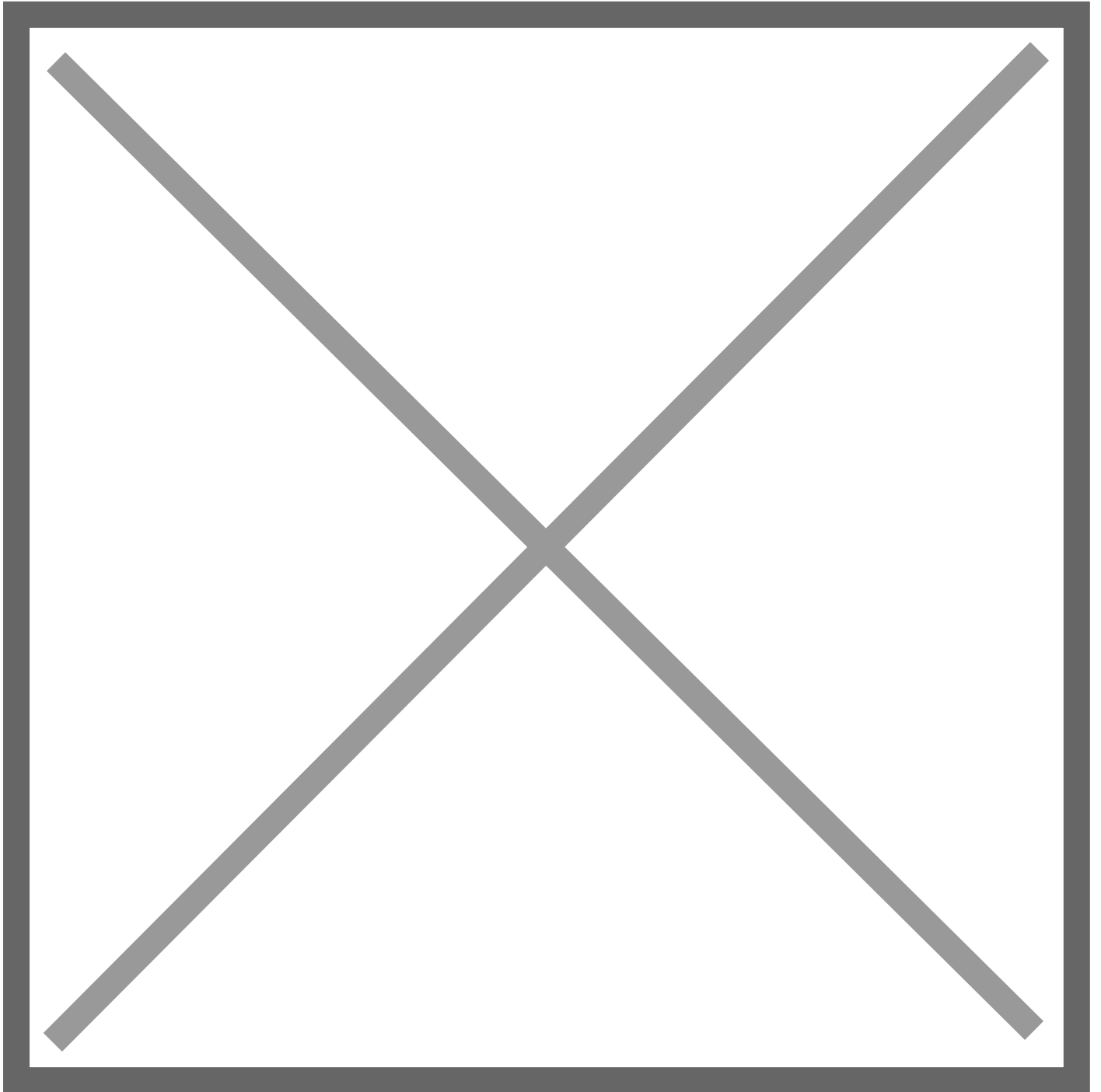


Bodily Functions Explained: Spicy Food Reaction

Wednesday, May 24, 2017



Spicy food contains chemicals that trick the body into cranking up its internal air-conditioning system, triggering responses from head to toe and involving everything from the respiratory to the circulatory system.

It happens at dinner tables around the world every day. Something spicy — a chunk of chili pepper, perhaps — goes from fork to mouth, setting off a body-wide chain reaction.

A burning sensation spreads across the lips and ignites the tongue. Mucous membranes, which protect the lungs from harmful inhalables, go into overdrive, making the nose run. A surge of blood travels through dilated vessels and body temperature shoots up, triggering a full on sweat meant to evaporate the heat away. The lungs send an alert to the diaphragm to hiccup quickly and repeatedly in an attempt to evict the fiery invader. A full-blown reaction to spicy food is born.

The culprit is most often capsaicin, among the most potent of the spicy molecules, found in most of the hottest peppers, including habanero and cayenne, but also in much smaller amounts in things like cilantro and cinnamon. (Another notable heat source is allyl isothiocyanate, which spices up horseradish, mustard, and wasabi.)

Capsaicin, released as a fine spray when you bite into foods that contain it, triggers heat receptors in the skin, tricking the nervous system into thinking you're overheating. In response, your brain cranks up all of your body's cooling mechanisms.

In short, you don't taste spicy food. You feel it.

To stop the cascade of reactions to the fiery chemicals, reach for milk— which contains a protein called casein that clings to fatty molecules like the oily capsaicin and carries them away. A 10 percent solution of sugar water also works by harnessing capsaicin's chemical reaction with sucrose.

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