

## Does sweating release toxins? <sup>[1]</sup>

Hello Alice,

After practicing yoga in normal temperatures for years, I recently attended a heated yoga class (heated quite hot: 95 to 100 degrees!). The experience left me dizzy, nauseous, and completely enervated. Afterwards, I expressed my concern to the teacher, asking why the studio needed to be so hot. She "explained" that by sweating, supposedly the body releases "toxins" and that my nausea and dizziness must indicate that I need to "detox." Personally, I think I was suffering from heat exhaustion. I've heard this silly explanation more than once, as many people seem to believe toxins are released through sweat. But is that true??? And — next question — doesn't exerting oneself in extremely hot temperatures seem like a recipe for dehydration? Are there any benefits that make it worthwhile, or is all this heated yoga just nonsense?

Thank you,  
Likes it Cool

### **Answer**

Dear Likes it Cool,

Though some like it hot, inducing heavy sweating is not an effective method of ridding your body of toxins — though it's very good at ridding your body of vital fluids, potentially leading to dehydration. Sweating releases traces of toxins (less than one percent of the body's total content), but in reality, its sole purpose is to prevent overheating. The liver and kidneys (not the sweat glands) are the body's true detoxifiers. They filter toxins out of the blood and the body releases them through urine and feces. When someone is dehydrated, these filtration mechanisms go haywire because of a reduction in the plasma level in the blood causing side effects like you experienced post-workout.

During physical activity, the body naturally "thermoregulates" (cools itself down) in a variety of ways: radiation, conduction, convection, and evaporation (sweating). If the environmental temperature exceeds skin temperature like in hot yoga where the room is often heated to 90 to 105°F, these first three mechanisms can't function. Furthermore, in a hot room, your body will also absorb heat from the environment causing its core temperature to rise even higher. As a result, sweating becomes the only way your body is able to regulate its rising core temperature

and it has to go on overdrive. Adding to this, if the space you're in is low on square footage and ventilation, having a group of people close together and sweating will also increase the humidity. High humidity amplifies the body's need to thermoregulate through sweat, and if everyone is sweating more this increases the humidity...and you see how this cycle continues.

The more you sweat, the more fluid you lose, and the more difficult thermoregulation becomes. A loss of just two percent body mass in fluid may increase heart rate and decrease blood volume which not only makes you feel under the weather, but may actually reduce your workout endurance. Symptoms of heat exhaustion include a rapid, weak pulse combined with a sense of physical weakness, dizziness, and headache. Experiencing these symptoms like you did during your yoga class is not a sign that you need to detox. Rather, it's your body's way of telling you to move to a cooler environment and rehydrate ([electrolytes](#) [2] may help with this). If you experience vomiting, muscle cramps, or feel progressively weaker, this is a sign of severe heat exhaustion and requires immediate medical attention. When the body's core temperature exceeds 103°F (often the result of malfunctioning thermoregulation and not a steamy workout), life threatening heat stroke may set in and organ systems may begin to shut down.

Don't let this information steer you away from getting all hot and sweaty! Just take heed of the potential risks you take if you choose to exercise in a hot room. Above all, listen to your body! There are actually many benefits to yoga and other forms of physical activity that make you sweat. To learn more about these benefits, check out the related Q&As.

The key in any physical activity routine is to make sure you're well hydrated before and during your workout to prevent heat illness. Aside from drinking the recommended eight to ten glasses of water per day, two hours before a workout be sure to drink a 16 ounce glass to give your body an extra boost of hydration. In an attempt to replenish fluids as you lose them during your workout, drink throughout your routine rather than waiting until you feel thirsty. Aim to drink 20 to 40 ounces of water per hour of physical activity. Avoid caffeinated and alcoholic drinks since they contribute to dehydration. Or, if you prefer some coffee or booze in your diet, make sure to drink more water to make up for it.

Until then, Likes it Cool, try out this new mantra "perspire, don't expire," and leave body detoxification to your liver and kidneys.

Alice!

Category:

[Nutrition & Physical Activity](#) [3]

[Fitness](#) [4]

[Working Out](#) [5]

## Related questions

[No sweat: Could it be anhidrosis?](#) [6]

[Soaking in sweat and seeking solutions](#) [7]

[Health benefits of yoga](#) [8]

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## Footer menu

- ▼ Contact Alice!
  - Content Use
  - Media Inquiries
  - Comments & Corrections
- ▼ Syndication & Licensing
  - Licensing Q&As
  - Get Alice! on Your Website
  - Full Site Syndication
  - Link to Go Ask Alice!

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### Links

- [1] <https://goaskalice.columbia.edu/answered-questions/does-sweating-release-toxins>
- [2] <http://goaskalice.columbia.edu/whats-main-purpose-electrolytes>
- [3] <https://goaskalice.columbia.edu/category/nutrition-physical-activity>
- [4] <https://goaskalice.columbia.edu/category/fitness>
- [5] <https://goaskalice.columbia.edu/category/working-out>
- [6] <https://goaskalice.columbia.edu/answered-questions/no-sweat-could-it-be-anhidrosis-0>
- [7] <https://goaskalice.columbia.edu/answered-questions/soaking-sweat-and-seeking-solutions>
- [8] <https://goaskalice.columbia.edu/answered-questions/health-benefits-yoga-0>