

## Heat Intolerance and Other Medication Side Effects

*This WorkCare fact sheet discusses the use of medications that can increase heat illness exposure risk and other ways drug interactions may affect employees' physical and mental health.*

Millions of Americans take prescription and over-the-counter medications, vitamins and herbal supplements. While information about potential side effects is widely available, consumers may not always be aware of the ways in which extreme temperatures and other factors can interact with these substances.



### Heat Illness

People who do strenuous tasks on high heat index days or who work in hot indoor environments have a higher-than-average risk for heat illness. Warning signs may include thirst, hot, red or damp skin, absence of sweat, reduced need to urinate, fast pulse, headache, dizziness, nausea and/or confusion.

Heat-induced disorientation and unconsciousness are medical emergencies. Employees are advised to use the buddy system because they may not be able to

recognize their own symptoms. Preventive interventions include drinking cool water to rehydrate or beverages with electrolytes to replace chemicals lost while sweating, resting in a cool place, loosening clothing, and applying ice packs or cool, wet cloths to the skin, or submerging in water to help lower body temperature.

Some medications can interfere with the body's ability to sweat and cool itself, self-regulate internal temperature or maintain fluid balance. Employees who are taking one or more medications should check with their doctor about their heat illness exposure risk and other potential side effects that may cause physical and/or cognitive impairment. All medications should be taken as prescribed.

The following are some of the types of medications that may decrease heat tolerance and increase risk for heat stroke:

- **Amphetamines**, such as those used to treat attention deficit hyperactivity disorder, and other types of stimulants that interact with the central nervous system and brain function can raise body temperature.
- **Antidepressants** like selective serotonin reuptake inhibitors (SSRIs) and tricyclic antidepressants have the potential to dysregulate body temperature, interfere with fluid retention and increase sweating, which can cause dehydration.
- **Antihistamines** used to treat allergies and allergic reactions (e.g., promethazine, doxylamine, and diphenhydramine) can interfere with body temperature regulation and the ability to sweat.
- **Antipsychotic** medications used to treat conditions such as schizophrenia, bipolar disorder, depression and Alzheimer's disease may interfere with body temperature regulation, sweating and thirst mechanisms.
- **ACE inhibitors**, which are used to treat and manage high blood pressure (a risk factor for heart disease, heart failure and stroke), can decrease thirst and the urge to hydrate. They may also increase the risk of fainting and falls.
- **Beta-blockers** are also used to treat high blood pressure and other cardiovascular conditions. They can make it

harder for people to sweat and cool themselves, and they increase the risk of fainting and falls.

- **Diuretics** help prevent fluid buildup, but they reduce thirst and increase frequency of urination, which can result in dehydration.
- **Thyroid hormone replacement** medications (e.g., levothyroxine) increase levels of natural thyroid hormones in the body, raise the body's temperature and can cause excessive sweating.

## Avoiding Drug Interactions

Lists of side effects are often long and include potentially rare reactions. It can be a daunting task for the average consumer to review them. Health care providers and pharmacists should be informed about all of the remedies a person is taking.

Substances in certain medications and wellness products can interact in harmful ways. For example, the American Heart Association reports that almost any nutrient can be potentially toxic if taken in large enough quantities over an extended period of time or when interacting with certain prescription drugs and/or dietary supplements. For instance:

- Experts advise against mixing high doses of iron and vitamins A, D and B6.
- Vitamin K can reduce the ability of the blood thinner Coumadin® to prevent blood from clotting.
- St. John's wort can reduce the effectiveness of certain drugs, including antidepressants and birth control pills.

### Other tips:

- Report side effects to the prescriber when a drug reaction occurs or the ability to function is impaired.
- Comply with dietary restrictions; some medications interact with some foods.
- Avoid alcohol as advised on warning labels and by prescribers.

- Take medications as directed, for example, at specific times, in exact quantities, with food or lots of water. Missing doses can be disruptive. Check for duplicate ingredients if taking more than one medication to prevent a potential overdose.
- For people with memory issues, it may be helpful to use pill organizers, a reminder app or similar methods.
- Store medications in a safe place out of the reach of children and as directed; their efficacy may depend on storage temperatures, (e.g., dry, cool, refrigerated.)

Before taking any kind of medication or supplement, it's important to understand its intended use and potential interactions and side effects. It's best practice to rely on medical professionals for advice and not try to self-diagnose or use medications that have been prescribed for someone else.



## Related Resources

1. WorkCare's Wellness Monthly: [Hot Temperatures Can Short-Circuit Brain Function](#).
2. [Prevention: These Eight Common Medications May Increase Your Risk of Heat Stroke](#). This article cites the Centers for Disease Control and Prevention and other sources.