

# Over-the-Counter Medications and How They Affect Monitoring

There is a lot of confusion among employees about over-the-counter (OTC) medicines. You may have heard questions and comments like, “It’s just an over-the-counter thing, no prescription needed. It can’t be bad for me, so why can’t I take it?”

In this brief report, we’ll try to answer those questions and explain why monitoring programs should be concerned about some OTC products.

Although not all OTC medicines are cause for concern, some can cause side effects that could impair an employee’s performance. Categories of OTC medicines to be concerned about include:

- Antihistamines
- Stimulants
- Dextromethorphan
- Liquid medications
- Other medications, including Kratom, U47700 Pink, synthetic cannabinoids, loperamide, and diphenoxylate

## Antihistamines

Antihistamines come in both sedating and nonsedating varieties and are found in many OTC preparations marketed for allergies, itching, insomnia, nausea, cold, and flu.

### The most common sedating antihistamines are:

- Diphenhydramine (Benadryl and others)
- Doxylamine (Unisom and others)

### High doses of these medicines can cause:

- Slurred speech
- Disinhibition
- Disorientation
- Dry mouth
- Fever
- Heart rhythm problems (cardiac arrhythmia)
- Dizziness,
- Urinary retention
- Memory deficits
- Anxiety
- Coma
- Death

### A note about “daytime” antihistamines

Less sedating antihistamines are often recommended for daytime use. They include:

- Chlorpheniramine (Chlor-Trimeton and others)
- Brompheniramine (Dimetapp and others)

However, because the side effect profiles for these drugs are the same as the more sedating drugs listed above, they can be a concern as well.

### Drugs for motion sickness

Dimenhydrinate (sold as Dramamine) is an antihistamine marketed for motion sickness. It is a combination of diphenhydramine and the stimulant 8-chlorotheopylline. High doses can produce hallucinations and euphoria and

### Antihistamine interactions

Antihistamines can interact with many other drugs, especially the following:

- Drugs used to treat pain, like opioids – antihistamines can increase the effects of the opioids
- Mono amine oxidase inhibitors
- Medications that cause drowsiness, such as antipsychotic or anxiety medications, antidepressants, muscle relaxers, narcotic pain medications, sleep drugs, and other antihistamines

## Stimulants

Another common OTC medicine category to be concerned about is stimulants. Many herbal supplements, diet medications, workout supplements, and decongestants contain stimulants, and people recovering from stimulant abuse should approach these medicines with caution.

**Pseudoephedrine** is a stimulant that is commonly sold without a prescription from behind the pharmacy counter because of its use in making illicit methamphetamine. In the body, pseudoephedrine changes to a version of phenylpropanolamine, which is a stimulant drug that has been withdrawn in Canada and the United States because of its ability to damage the heart. In November 2000, the U.S. Food and Drug Administration (FDA) issued a public health advisory against the use of the drug.

**Phenylephrine** and ephedrine (sold under the names Bronkaid, Primatene, and others) are stimulants frequently used in asthma inhalers and oral decongestants. They are also sometimes used in supplements and diet preparations. These drugs are both stimulants that can be abused.

**Caffeine** is everywhere, and it has many beneficial stimulating properties when it is used in common amounts. However, very high doses cause usual stimulant side effects and as such should be used with caution by people susceptible to those effects. Many diet preparations contain caffeine in high doses.

**‘l’-methamphetamine (Levmetamfetamine)**, which is the stereo isomer of the illicit form of methamphetamine, is often included in dry nasal inhalers as a decongestant. In small doses it is not psychoactive, and the name has been changed to try to avoid the stigma of the name “methamphetamine.” Even though it is not considered psychoactive in the recommended doses of the OTC products, high doses can cause a methamphetamine type of “high.” It should be avoided.

## Dextromethorphan

Dextromethorphan (DXM) is a cough suppressant found in many different OTC products. It is a weak opioid receptor agonist and is similar to dissociative anesthetics such as PCP and ketamine.

### Side effects of DXM can include:

- Visual field distortions
- Feelings of distorted body perception
- Dissociation
- Excitement
- Loss of the sense of time

DXM usually provides its recreational effect in a nonlinear fashion, so the effects are experienced in stages commonly referred to as “plateaus” or “robotripping.”

### At high doses (3 to 10 times the therapeutic dose), DXM can cause:

- Euphoria
- Dilated pupils
- Restlessness
- increased energy, particularly with music

### At very high doses, (15 to 75 times the therapeutic dose), DXM can cause:

- Dissociation
- Fever
- Fast heartbeat
- Blurred vision
- Hallucinations
- Euphoria
- Urinary retention
- Skin tingling
- Hypertension
- Diarrhea
- Blackout
- Death

## Liquid Medications

Liquid medications frequently contain at least some of the drugs above, which may be dissolved in alcohol. You should assume all OTC liquid preparations contain alcohol until you find out otherwise. Alcohol is not an active ingredient like antihistamines, stimulants, or DXM. If it is in the preparation, it will be listed under “Inactive Ingredients” and may be difficult to find. That is why we recommend that all OTC liquid medications be avoided.

## Other Medications

**Kratom (*Mitragyna speciosa*)** is a tropical plant from Southeast Asia that has psychotropic opioid properties. It is easily available. It produces euphoria and is used as an aphrodisiac. Interacting with opioid receptors in the brain, it produces side effects similar to opioids, including:

- Sedation
- Pleasure
- Decreased pain
- Nausea
- Constipation
- Dry mouth
- Tolerance
- Dependence

After months of use, Kratom can cause withdrawal symptoms including:

- Muscle aches
- Irritability
- Mood changes
- Insomnia
- Diarrhea
- Runny nose

The withdrawal syndrome runs a protracted course and is similar to opioid withdrawal.

**U47700 Pink**, or Pinky, is a research compound developed by Upjohn in 1970. It is powerful opioid receptor agonist with 7.5 times the potency of morphine with classic opioid side effects, toxicity and euphoria. It has recently been classified as a Schedule I drug.

**Synthetic cannabinoids** are not just other forms of marijuana. They are more potent and toxic even than the increased-potency THC we know about today. Intoxications have included hospitalizations and fatalities. There are many new substances and in addition to herbal material also used as liquid, blotter, powder, tablet. Use is problematic in prisons, among vulnerable populations, and at school.

**Loperamide**, an antidiarrheal drug marketed as Imodium, has been called “the poor man's methadone.” It has been used as an over-the-counter treatment for opioid withdrawal symptoms. The FDA has called on drug manufacturers to voluntarily limit the availability of loperamide for public safety reasons (as they have done for pseudoephedrine).

**Diphenoxylate** is another antidiarrheal that is chemically similar to meperidine (Demerol). It is considered safer than loperamide, since it is combined with atropine and marketed as Lomotil. Atropine decreases the risk of abuse because it causes significant unpleasant anticholinergic side effects at higher doses.

Vault Health advises our clients to restrict the use of all OTC supplements and medications unless they are specifically recommended and monitored by the participant's healthcare provider.