



PATIENT & CAREGIVER EDUCATION

Ephedra

This information describes the common uses of Ephedra, how it works, and its possible side effects.

Tell your healthcare providers about any dietary supplements you're taking, such as herbs, vitamins, minerals, and natural or home remedies. This will help them manage your care and keep you safe.

What is it?

Ephedra is a stimulant that has caused heart attack and stroke resulting in several deaths.

Ephedra contains ephedrine and pseudoephedrine, which are known to stimulate the central nervous system (brain and spinal cord). They activate the “fight or flight” response, resulting in constriction of blood vessels, relaxation and dilation of air passages, appetite suppression, and general stimulant effects. While these effects explain the use of ephedra as a decongestant, weight loss supplement, and anti-asthma agent, in high doses ephedra can raise blood pressure and cause adverse reactions such as stroke and heart attack. Even a single dose of an ephedra containing supplement can cause dangerous increases in blood pressure and effects on heart function.

Laboratory studies indicate that ephedra also can kill bacteria on contact, reduce inflammation, and cause contraction of the muscles of the uterus. These effects have not been studied in humans.

What are the potential uses and benefits?

- **To treat asthma**
Ephedra may stimulate bronchial dilation. Alkaloids from ephedra have been used in over-the-counter medication as asthma remedies and nasal decongestants.
- **To treat coughs and bronchitis**
Ephedra may stimulate bronchial dilation, but human data are lacking. The risk of dangerous side effects of ephedra may outweigh any benefits.
- **To treat the common cold**
No scientific evidence supports this use.
- **To treat infections**
Laboratory studies show that ephedra has antibacterial properties.
- **To promote urination**
There are no data to back this claim.
- **For strength and stamina**
Ephedra stimulates the central nervous system, but human data are lacking. The risk of dangerous side effects of ephedra may outweigh any benefits.
- **To lose weight**
Even though a few clinical trials suggest that people taking ephedra lose weight, ephedra is not safe to use, even at normal doses.

What are the side effects?

- Headache
- Hypertension
- Gastric mucosal injury
- Palpitations
- Heart attack
- Stroke

- Seizures
- Insomnia
- Psychosis
- Death
- Acute bilateral ocular pain and decreased vision along with headache, nausea and vomiting: In a 52-year-old woman after taking a herbal medicine containing ephedra for weight loss. Her symptoms resolved following treatment with antiglaucoma medications.

What else do I need to know?

Patient Warnings:

- The FDA banned the sales of ephedra-containing dietary supplements as they pose significant health risks.

Do Not Take if:

- You have any of the following conditions: **Anxiety, high blood pressure, heart disease, glaucoma, prostate enlargement, or hyperthyroidism.**
- You are **pregnant.** (Ephedra can stimulate contraction of the uterus).
- You are taking **aspirin** (Ephedra may increase the risk of brain hemorrhage (stroke)).
- You are taking **benzodiazepines or other sedatives** (Ephedra may lessen their effects).
- You are taking **beta-adrenergic agonists** (Ephedra may have additive effects, possibly leading to toxicity).
- You are taking **CNS stimulants** (Ephedra may increase the stimulatory effects).
- You are taking **monoamine-oxidase inhibitors (MAO-Is)** (Use of ephedra at the same time can cause hypertensive crisis, or dangerously high blood pressure).

- You are taking **theophylline** (Ephedra may decrease its effects).
- You are taking **digoxin** (Use of ephedra at the same time can cause cardiac arrhythmia).

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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