

Asthma-An Herbalist's First Aid Perspective

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Safety Concerns

1. Asthma can quickly escalate into an emergency situation.
 - Have medicines and treatment strategies ready for these circumstances.
2. People should continue to carry their rescue inhalers and asthma medications even if the herbal medicines decrease the frequency and severity of the symptoms.
 - Asthma attacks can happen at any time; it is useful to have a rescue inhaler on hand.

Asthma Introduction

Asthma is a very common ailment. The symptoms range from mild to life-threatening, and emergency measures are sometimes necessary. Asthma is a common health issue globally. Its burden is especially felt in communities that lack resources and medical access. There are currently about 25 million people with asthma in the US (about 1 in 12) and 260 million worldwide. It is the most common chronic health disorder in children.

In terms of first aid, it is a condition that one is likely to see regularly. Knowing the basics of how it affects the body, along with common treatments, is essential for first aid workers.

What is Asthma

Asthma is a condition in which breathing becomes difficult due to a narrowing of the airways. It is mainly an allergic reaction, though there are also nonallergic forms. As with other allergies, it is an exaggerated immune response to various triggers that causes an overreaction in the body, compromising the ability to breathe.

Asthma has three main components, each making it difficult to breathe. The bronchi constrict due to the contraction of the smooth airway muscles.

Inflammation occurs as immune cells pour into the area, causing swelling and further narrowing of the bronchi. Excess mucus production made by the mucus-producing (goblet) cells that line the bronchi that further narrows the opening of the airways.

Genetic and environmental factors contribute to this ailment, but it is unknown why some people develop asthma. Air pollution, climate change, and other environmental influences are known contributing factors.

Asthma Symptoms

Asthma symptoms include shortness of breath, difficulty breathing, chest tightness, chest pain, coughing, and wheezing. Anxiety can also accompany these symptoms due to the difficulty in breathing. Sleep may be impaired

due to coughing and constrained breathing. Asthma is common in children as they have smaller airways, and its effects can be more deleterious. A young person with breathing problems may have undiagnosed asthma. A blue or gray tinge to the lips and difficulty speaking are signs of a more severe asthma attack.

Wheezing is a common symptom of asthma. It is often a high-pitched whistling sound made on the exhalation (breathing out). This is caused by air passing through the constricted airways.

Asthma Triggers

There are many asthma triggers, and people can have very individual reactions to these various substances and events. An individual may only be allergic to one or two of these triggers, while another person may have asthma attacks triggered by a much broader array of substances.

Allergens are a common trigger. These include pollen, animal dander, mold, dust mites, and other substances. Asthma can also be in response to food allergies, though this seems to be less common.

Irritants such as cigarette smoke, air pollution, and particles from fires can cause asthma attacks. Weather can also be a trigger for asthma flare-ups.

These include cold, dry air, sudden weather changes, and high humidity.

Exercise-induced asthma (now reclassified as exercise-induced bronchoconstriction) is characterized by bronchial constriction during exercise.

Strong emotions such as anxiety, anger, stress, or laughing hard can cause an asthma attack. This is partly due to the changes in breathing that occur during these states.

Viral infections of the respiratory tract, such as colds, flu, and sinusitis, are also asthma triggers.

And lastly, some medications such as beta-blockers, aspirin, and NSAIDs (i.e., ibuprofen) can cause an asthma event.

Types of Asthma

There are several ways that asthma is categorized. One system is by its frequency and severity, with asthma attacks ranging from mild intermittent to severe persistent asthma. Asthma can also be divided by its triggers, such as allergic asthma, or by the lack of triggers, as with nonallergic types of asthma.

People's asthmatic reactions can be highly individualistic: in severity, frequency, and duration.

Types of Asthma Drugs

One of the reasons it is helpful to understand the mechanisms that cause asthma is to gain insights into the types of medications and treatments that can reduce asthma attacks.

There are many types of medications to treat asthma. They can generally be broken down into two categories: medications that offer quick relief and those

used for long-term control. The most common ones for immediate symptom relief are inhalers ('puffers') such as albuterol. These are bronchodilators containing a beta-agonist that works by relaxing airway muscles. The most common medications for long-term control are inhaled corticosteroids, such as budesonide. They suppress inflammation in the lungs, which is one of the key mechanisms involved in an asthma attack. There are many other asthma drugs with varying methods of reducing asthma attacks. These include immune modulators such as Xolair, which is given by injection. There are leukotriene modifiers, such as montelukast, which block leukotrienes, a type of immune cell involved in asthma attacks. Along with these, there are other types of asthma medicines as well as combinations of the above drugs.

Many of these medications carry potential side effects. Before choosing an asthma medication, it is helpful to read the label. Also, speak with a health care provider and with anyone taking these medications to learn about their experiences with the effects and side effects.

One type of device that may be useful is a nebulizer. These are electrical or battery-operated medical devices that break up liquid asthma medicines into a mist that makes the medicines easier to breathe in. This increases their efficiency. I know some herbalists who put tinctures into their nebulizers, but I do not have any experience with this method yet.

Treating Asthma

People often know that they are having an asthma attack due to prior episodes and a medical diagnosis. The exceptions are when people have not had a previous incidence or have not been diagnosed. Other health issues can mimic asthma, and in these situations, further assessment will be necessary.

When treating an asthma attack, try to help the individual relax. This may be difficult, but agitation worsens symptoms.

Ask if they take any medications. If so, do they have them on hand, or are they nearby? If they don't have their medication, find out which drugs they regularly use. You can then either help them find that specific medication or decide which category of herbal medicine may be most beneficial.

General Treatment Strategies

1. Avoidance-this is the primary treatment for asthma. Try to remove or reduce the triggering substance or situation. While this can be challenging, once the stimuli are removed, the asthma attack may lessen considerably.
2. Medication-see if they have or if you can obtain the medicine they need to reduce their symptoms.
3. Use appropriate herbal medicines.
4. Relaxation-anxiety and agitation increase asthma symptoms. Try to find ways to help the patient feel more relaxed.
 - This can be done by reassuring them that they will be alright and that someone will be present with them.

- Breathing exercises can also be helpful. There are methods that can help a person notice they are breathing, which can reduce anxiety.
5. Prophylactic treatment-this includes conventional or herbal remedies that may decrease the frequency or severity of asthma attacks over time. These include anti-inflammatories.
 6. Education-discuss possible ways to reduce future exacerbations.

Herbal Treatment

There are three primary forms of herbal asthma treatments: bronchodilators, anti-inflammatories, and decongestants. Out of these, the bronchodilators have the most immediate effect. The anti-inflammatories are for long-term symptom relief, and the decongestants help with excess mucous production. There are also herbs and treatment categories for the other associated health issues, including sleeplessness, coughing, and anxiety. The descriptions below focus on bronchodilators as they are the most specific remedies for asthma.

Bronchodilators

Bronchodilators are the mainstay for immediate asthma relief. They relax the smooth muscles of the bronchi, reducing constriction and increasing airflow into and out of the lungs. The two plants that help in this manner are *Lobelia inflata* and *Ephedra*.

Lobelia Inflata

There are many species of *Lobelia*, but the only one I use as medicine is *Lobelia inflata*.

I often call *Lobelia inflata* a 'gateway herb' because of how quickly it can help with asthma symptoms. This increases people's belief that herbal medicine has a place in the modern medicine cabinet. (I will save the rest of this rant for a later time.)

Lobelia acts as a bronchodilator, relaxing the smooth muscle in the airways, making it easier to breathe. The exact mechanism for this action is unknown. Unlike *Ephedra*, *Lobelia* is not a stimulant; it has a relaxing edge to its effects.

Lobelia is generally prepared as a tincture or a vinegar. I mainly use the tincture, but *Lobelia* in vinegar has a long history of use.

It is important to note that *Lobelia* is not anti-inflammatory and does not replace or act like an inhaled corticosteroid inhaler.

With infants and young children, some herbal practitioners rub *Lobelia* tincture on the chest or upper back to help with asthma symptoms and have reported positive results. I have not tried this, but it seems like a good way to administer it to young children.

Lobelia Safety Guidelines

Lobelia has an undeserved reputation for being a toxic plant. The most common adverse reaction is nausea. Avoid drinking the plant as a tea, as it is

acid and can cause nausea and vomiting. Occasionally, this happens with the tincture, but it is uncommon. While nausea and vomiting are discomfiting, they are rarely dangerous.

Some people are wary of using Lobelia tincture, but in my many years of using this plant preparation, I have found it to be relatively safe.

Lobelia Dosage Guidelines

These guidelines are for Lobelia tincture and vinegar. I do not use nor recommend the tea due to its acidity.

For adults and older children-start with approximately 5 drops directly in the mouth. If this provides relief (or at least does not make the symptoms worse), follow up with approximately 10 drops. Continue to dose 10 drops until the patient reaches their plateau dose, at which point giving more medicine no longer improves symptoms. I have given up to 25 drops per dosage with no ill effects.

Once a dosage is known for an individual, they can start with this larger amount. For instance, if they know 15 drops will help with their asthma, then they can start with this dosage and add more as needed.

Remember to give patients Lobelia tincture to take with them in case of further asthma attacks.

Ephedra Species

There are three main medicinal Ephedra species, though the genus has numerous species. These are *Ephedra sinica*, *E. vulgaris*, and *E. equisetina*. Unfortunately, the North American Ephedra species lack the medicinal alkaloids and are not therapeutically active. In the US, the sale of Ephedra is monitored, and it can be difficult to purchase. Ma huang is the most common name for the medicinal Ephedra species.

Ephedra is a bronchodilator, though it works in a very different (and better understood) manner than Lobelia.

Ephedra is sympathomimetic. It mimics the sympathetic nervous system, the part of the nervous system associated with 'fight or flight.' When scared ('fight or flight'), the depth of one's breathing increases as the body prepares for an encounter. Ephedra contains two important medicinal constituents, ephedrine and pseudoephedrine, that are responsible for a similar body response to adrenaline. They increase breathing capacity.

Ephedra is also a valuable decongestant and will help dry up mucous in the respiratory tract.

These plants are stimulating, which is generally not desirable during an asthma exacerbation. But the relief of breathing better usually counters this unpleasant effect. Also, not everyone experiences this stimulation to the same degree.

Ephedra Safety Guideline

Ephedra should be administered only by experienced herbalists. While I find there are over-the-top warnings about many medicinal plants, Ephedra can

have clear detrimental effects. The amount given per dosage is one way to control potential side effects, as well as to monitor people during and after administration.

Ephedra is a stimulant and can cause anxiety, heart palpitations, agitation, high blood pressure, insomnia, and other issues relating to its stimulating properties. *Please use it with caution.*

This herb should be avoided by people with high blood pressure or heart disease, as well as during pregnancy and breastfeeding.

It may increase anxiety, so people prone to anxiousness may want to avoid it. It can also cause insomnia due to its stimulating properties. Since people often have very different reactions and sensitivities to medicines, start with a small amount and monitor the outcome. Ephedra should only be used for short-term use. Once asthma symptoms improve, switch to safer herbs.

Ephedra is also very drying (hence its decongestant effect), which may be undesirable for people with drier constitutions.

Ephedra Dosage Guidelines

Ephedra is generally used as a tincture or tea. I like using it as a tincture, as it is easier to control the dose, but the traditional use is as a tea.

Tincture dosage

Adults and older children-start with about 5 drops. Wait about 3 minutes to see if there are any adverse reactions. If it seems helpful and there are no deleterious effects, continue to give about ½ dropperful every 5 minutes until it reaches a plateau dose. Continue to monitor for adverse effects during and post administration for about 20 minutes.

I do not suggest using Ephedra with young children.

If giving this medicine for a person to take home, include safety precautions on the label.

Tea dosage

Note, the tea is very astringent.

To prepare the tea, simmer 1 oz of the herb in 1 quart of water for 20 minutes, and drink 2-4 oz of tea as needed per serving.

Other Asthma Preparations

The formulas below are just a few of many possibilities. See the herb lists for alternatives. Milliliter (ml) dosages are used instead of a dropperful, as droppers are inconsistent with how much is pulled up with each squeeze. The standard 1- and 2-oz dropper holds 2 ml when filled to the top. This means that a 1 ml dosage is half a dropperful. A 2 ml dosage usually means taking two half droppers, as it is easier than trying to fill the dropper.

Steams

Steams can be useful to reduce the severity of an asthma attack. The warm, moist air helps soothe the respiratory tract and can loosen mucous. Essential

oils can also be added to increase these effects. The hot, moisture (and essential oils) can act as an irritant for some people and worsen their symptoms. Be cautious with any person who has not tried this method previously. Initially, inhale the steam from approximately 12 inches away from the top of the pot. At this distance, it is not as strong. They can then bring their face down to a comfortable level to avoid burning their face. Do not add more than 2-4 drops of essential oil per steam. Prepare the steam by putting enough water to cover the bottom of a pot by a few inches. Bring the water to a boil, then turn off the heat and add the essential oils. The person then brings their face to about 8-12 inches from the top of the pot and inhales the vapor a few times. Make sure the heat is off. Limit the steams to about 2 times per day to avoid aggravating the face and respiratory tissue.

Essential oils

- Camphor
- Eucalyptus
- Tea tree

Anti-inflammatories

Herbal anti-inflammatories are used for the long-term treatment of asthma. They are taken daily to reduce respiratory inflammation, which can help prevent future asthma attacks. They are not as potent as inhaled corticosteroid medications, as those medications go directly to the lungs. But herbal anti-inflammatories are still useful, especially for less severe forms of asthma. They are often used alongside other asthma medications.

Anti-inflammatory tincture #1

*Equal parts

- Licorice
- Willow
- Black birch
- Dosage: 2 ml 3 times daily

Anti-inflammatory tincture #2

- Elecampane 2 pt
- Ginger 1 pt
- Mullein 1 pt
- Dosage: 2 ml 3 times daily

Decongestants

Decongestants are used to dry out the nasal and respiratory passages of excess mucus. This improves breathing by reducing the amount of mucous in the airways. These herbs can have an overall drying effect. People who tend to be dry should use them only when needed for symptom relief.

Decongestant tincture #1

**Do not use this preparation for people with hypertension. See Ephedra Safety*

- Licorice 3 pt
- Ephedra 1 pt
- Dosage-½ dropperful up to 5 times daily

Decongestant tincture #2

*Equal parts

- Beggar ticks
- Yerba santa
- Wolfberry
- Dosage: 1-2 ml as often as needed for congestion

Antitussives (Cough remedies)

Asthmatic coughs are generally dry and non-productive and may be accompanied by wheezing. They can be persistent and uncomfortable, and coughing during the night can make sleep difficult.

Cough drops or lozenges.

Cough drops can be made with various antitussive herbs. Demulcents are especially helpful when combined with honey, as they soothe the respiratory tract.

Mucilaginous Beverage

A soothing, mucilaginous beverage can help by reducing respiratory irritation. Stir a teaspoon to a tablespoon of a demulcent plant powder into a glass of water until it dissolves. The amount used is determined by one's tastes and ability to enjoy a gelatinous drink. It should be drunk slowly, especially if actively coughing. Some useful plant powders for this are Marshmallow root and Slippery elm.

Antitussive Tinctures

Antitussive tinctures have useful cough-relieving properties. To make them more soothing, they can be added to a mucilaginous drink.

Cough Tincture #1

- Wild cherry 2 pt
- Mullein 1 pt
- Thyme 1 pt
- Dosage: 1-2 ml as often as needed

Cough Tincture #2

- Coltsfoot 2 pt
- Mullein 2 pt
- Horehound 2 pt
- Licorice 1 pt

- Dosage: 1-2 ml as often as needed

Antihistamines

Antihistamines are helpful for allergies but are not specific for asthma attacks. They can be taken to reduce allergy symptoms and thus decrease the chance of an asthma exacerbation.

Antihistamine tincture #1

- Eyebright
- Dosage: 1-2 ml as often as needed

Antihistamine tincture #2

- Ragweed
- Dosage: 1-2 ml as often as needed

Anxiolytics

Anxiety often accompanies asthma due to the difficulty in breathing. Herbs that are relaxing can lessen this anxiousness and help make breathing easier.

Anxiolytic tincture #1

- Chamomile 3 pt
- Tulsi 3 pt
- Passionflower 2 pt
- Skullcap 1 pt
- Dosage: 1-3 ml as often as needed

Anxiolytic tincture #2

- Damiana 2 pt
- Motherwort 2 pt
- Rose 2 pt
- Hops 1 pt
- Dosage: 1-3 ml as often as needed

Expectorants

Expectorants help bring up phlegm making it easier to breathe. Demulcent herbs often act as expectorants, as they soften the mucus in the respiratory tract. Adding honey to the medicine may increase its expectorant properties.

Expectorant tincture #1

- Lobelia
- Dosage: 5-10 drops as needed. (*See Lobelia safety*)

Expectorant tincture #2

- Yerba santa 2 pt
- Coltsfoot 2 pt
- Yerba santa 2 pt

- Licorice 1 pt
- Dosage ½-1 dropperful as needed

Sleep Aids

Sleeping can be difficult due to the breathing restrictions and coughing that can occur with asthma. These herbs are used in combination with other asthma aids.

Sleep aid tincture #1

- Hops 1 pt
- Valerian 1 pt
- Kava 1 pt
- Dosage: 2 ml before sleep, and 2 ml as needed if waking during the night.

Sleep aid tincture #2

- Chamomile 3 pt
- Passionflower 2 pt
- Skullcap 2 pt
- Hops 1 pt
- Dosage: 2 ml before sleep, and 2 ml as needed if waking during the night.

Therapeutic Categories for Asthma

- | | |
|----------------------|------------------|
| 1. Antihistamine | 7. Decongestant |
| 2. Anti-inflammatory | 8. Demulcent |
| 3. Antitussive | 9. Essential oil |
| 4. Anxiolytic | 10. Expectorant |
| 5. Bronchodilator | 11. Sleep aid |
| 6. Carrier | |

Medicinal Preparations for Asthma

- | | |
|------------------|-------------|
| 1. Essential oil | 5. Steam |
| 2. Glycerite | 6. Tea |
| 3. Honey | 7. Tincture |
| 4. Liniment | 8. Vinegar |

Antihistamines

1. Eyebright (*Euphrasia species*)
2. Ragweed (*Ambrosia artemisiifolia*)

Anti-inflammatories

- | | |
|-----------------------------------------------|--------------------------------------------------------------|
| 1. Black birch (<i>Betula lenta</i>) | 5. Ginger (<i>Zingiber officinale</i>) |
| 2. Calendula (<i>Calendula officinalis</i>) | 6. Japanese knotweed (<i>Fallopia japonica</i>) |
| 3. Chamomile (<i>Matricaria chamomilla</i>) | Licorice (<i>Glycyrrhiza glabra</i> , <i>G. uralensis</i>) |
| 4. Elecampane (<i>Inula helenium</i>) | |

7. Meadowsweet (*Filipendula ulmaria*)
8. Poplar (*Populus* species)
9. Turmeric (*Curcuma longa*)

10. Yucca (*Yucca* species)
11. Willow (*Salix* species)
12. Wintergreen (*Gaultheria procumbens*)

Antitussives

1. Coltsfoot (*Tussilago farfara*)
2. Ginger (*Zingiber officinale*)
3. Horehound (*Marrubium vulgare*)
4. Licorice (*Glycyrrhiza glabra*, *G. uralensis*)

5. Mullein (*Verbascum thapsus*)
6. Peppermint (*Mentha x piperita*)
7. Thyme (*Thymus* species)
8. Wild cherry (*Prunus serotina*)

Anxiolytics

1. Anemone (*Anemone* species)
2. Blue vervain (*Verbena hastata*)
3. California poppy (*Eschscholzia californica*)
4. Chamomile (*Matricaria chamomilla*)
5. Damiana (*Turnera diffusa*)
6. Hops (*Humulus lupulus*)
7. Kava (*Piper methysticum*)
8. Linden (*Tilia* species)

9. Mimosa (*Albizia julibrissin*)
10. Motherwort (*Leonurus cardiaca*)
11. Oats (*Avena sativa*)
12. Passionflower (*Passiflora incarnata*)
13. Rose (*Rosa* species)
14. Skullcap (*Scutellaria lateriflora*)
15. Tulsi (*Ocimum tenuiflorum*)
16. Valerian (*Valeriana officinalis*)
17. Wood betony (*Betonica officinalis*)

Bronchodilators

1. Ephedra (*Ephedra* species)
2. Lobelia (*Lobelia inflata*)

Carriers

1. Cayenne (*Capsicum* species)
2. Horseradish (*Armoracia rusticana*)
3. Prickly ash (*Zanthoxylum clava-herculis*)

Decongestants

1. Bayberry (*Myrica cerifera*)
2. Beggar ticks (*Bidens* species)
3. Ephedra (*Ephedra* species)
4. Grindelia (*Grindelia* species)
5. Horseradish (*Armoracia rusticana*)

6. Wasabi (*Wasabia japonica*)
7. Wolfberry (*Lycium pallidum*)
8. Yerba mansa (*Anemopsis californica*)
9. Yerba santa (*Eriodictyon* species)

Demulcents

1. Comfrey (*Symphytum* species)
2. Elm (*Ulmus rubra*)
3. Licorice (*Glycyrrhiza glabra*, *G. uralensis*)
4. Marshmallow (*Althaea officinalis*)

Essential oils

1. Camphor (*Cinnamomum camphora*)
2. Eucalyptus (*Eucalyptus* species)
3. Thyme (*Thymus* species)

Expectorants

1. Coltsfoot (*Tussilago farfara*)
2. Demulcents
3. Elecampane (*Inula helenium*)
4. Grindelia (*Grindelia* species)
5. Lobelia (*Lobelia inflata*)
6. Mullein (*Verbascum thapsus*)
7. Wild cherry (*Prunus serotina*)
8. Yerba santa (*Eriodictyon* species)

Sleep Aids

1. Chamomile (*Matricaria chamomilla*)
2. Hops (*Humulus lupulus*)
3. Kava (*Piper methysticum*)
4. Passionflower (*Passiflora incarnata*)
5. Skullcap (*Scutellaria lateriflora*)
6. Valerian (*Valeriana officinalis*)