



How is asthma treated?

The goal of asthma therapy is to decrease or completely eradicate symptoms so that children can fully take part in normal physical activities. We can achieve this by avoiding known asthma triggers (such as cigarette smoke) and using asthma medication when needed. It is also a priority to eliminate as much as possible the need for ER visits and hospitalizations due to asthma. If your child is having symptoms of asthma more than twice per week, please make your child's doctor aware of this. This suggests suboptimal control.

What type of medications are used?

Asthma can have varied manifestations and differ in each child. Your child's doctor will decide which asthma medicine is best for your child based on the severity and frequency of symptoms. Children with only intermittent symptoms can take medicines on an as-needed basis, usually only for short periods. Children with more frequent symptoms may need a daily controller medication. Sometimes more than one medicine is necessary to control and prevent symptoms. If your child has been severely affected, your child's doctor may prescribe a few medications at first to quickly gain control and make your child feel better and then try to decrease the medications as your child improves. Your child's doctor will probably provide you with an Asthma Action Plan to have at home so that you know exactly what to do on a daily basis and what to do when certain symptoms begin. Interval reassessments are needed to adjust medications to control symptoms while reducing side effects of medication as much as possible.

Forms of asthma medicine

Asthma medicines come in several different forms, including:

- Metered dose inhalers (MDIs)
- Dry powder inhalers (DPIs)
- Liquids used in a machine called a nebulizer
- Pills, chewable, or granule medications

Type of asthma medications

- **Rescue (short-acting) medications:** These are medicines that quickly relieve symptoms of wheezing, shortness of breath, and chest tightness.

These medicines are usually taken on an as needed basis. With children who have exercise-induced asthma, they can also prevent symptoms if taken before exercise. Albuterol is the most commonly used rescue medication and works by relaxing the smooth muscle of the airways.

- Examples are albuterol, levalbuterol
- **Controller (long-acting) medications:** These are usually used daily to control persistent asthma and prevent frequent symptoms. They work by decreasing inflammation of the airway and some work by causing long acting relaxation of the airway muscles. **Controllers do not help in the acute setting and do not provide any immediate relief.** They help over days to weeks to reduce inflammation and usually have maximal efficacy after 2-4 weeks. Generally, if your child has symptoms more than twice per week during the day or persistent night time cough more than twice per month, a daily controller is indicated. Examples include:
 - **Inhaled steroids** – these are the most effective and for that reason the preferred choice. They are very safe and do not cause the serious long term side effects often seen with frequent use of oral steroids.
 - **Long acting bronchodilators** – these are used in inhalers that also have an inhaled steroid
 - **Leukotriene receptor antagonists** – they are oral medications that block part of the inflammation cascade and can have benefits against both asthma and allergies (ex. montelukast)

What devices are used to deliver asthma medicines?

Medicines for asthma can be given to your child using different devices. These include:

- **Nebulizer:** This uses an air compressor and cup to vaporize the liquid medication into a mist your child can breathe in. In order for optimal delivery of the medicine to the lungs, these medications must be given with a mask (for babies and small children) or a mouth piece (for older children to adults).
- **Metered dose inhaler:** This is the most frequently used device for asthma medications. Spacers or aerochambers, which attach to the inhaler significantly improve the delivery of the medication to the lung and decrease oral absorption. This enhances the efficacy and decreases side effects. There is one new controller inhaler on the market now that has its own chamber, Aerospan, which is licensed for children 6 and up.
- **Dry powder inhaler:** This device is available for some medicines. It does not require coordination of breathing in with pressing a button, but it does require training and is not generally used in children less than 4.

Click [here](#) to view images of different types of inhaler.

- https://www.aap.org/en-us/Documents/medicalhome_resources_respiratory_inhalers_english.pdf