

## Asthma, Child

### Acute Episode

#### What is it?

An asthma episode or attack is a flare up in asthma symptoms. Inflammation and swelling of the lining of the inside of air passages leads to tightening of muscles around these airways. More mucus is produced. All of this causes narrowing of the air passages in the lungs. This makes breathing difficult.

#### What is the cause?

Your child may have a cold or other upper respiratory virus infection. If your child has allergies, exposure to pollen, dust, or animals may trigger an attack. Sinus infections are another common cause. Sometimes an attack is brought on by exposure to heavy smoke, paint fumes, or other irritants to the lungs.

#### What are the symptoms?

Your child may have a frequent harsh cough. There may be wheezing, which is a whistling sound when breathing out or stridor which is a sound when breathing in. Your child may have chest pain or tightness. Sleep may be disturbed. In more serious flare-ups, your child may be short of breath.

#### How is it treated?

We may give your child medicines to help open the air passages. These are called rescue medicines. They work by relaxing the tightened muscles around the air passages. These medicines will need to be continued for as long as your child has symptoms. Use as directed for cough or wheeze. We may give your child steroid medicines. These medicines treat the inflammation in the air passages. If your child has a bacterial infection in the sinuses or elsewhere, antibiotic medicines may be needed. If the attack is severe, we will treat your child in the hospital.

#### What can I expect?

We expect your child's asthma attack will improve. Depending on the cause of the attack, it may take one to several days to return to normal. You should see improvement for a while in your child's cough or wheeze after giving the rescue medicine. As your child gets better, he or she will need rescue medicine less often.

#### What to watch for.

Call us right away or seek medical care if your child's shortness of breath gets worse. Let us know if your child does not improve as expected. We want to know if the rescue medicine does not help or last as long as the prescription suggests. Call us if your child is vomiting or can't sleep because of the cough or wheeze.

### Exertional Asthma

#### What is it?

Asthma is a disease in which the linings of the air passages of the lungs are easily inflamed. The air passages over-react to a variety of things. When the air passages react, more inflammation occurs. The muscles around the air passages tighten. Both the tightening and the inflammation cause the air passages to become narrower for a time. This can make it difficult to breathe. Also, thick mucus is created in the air passages, which blocks them even more. Exercise asthma is a special type of mild asthma. Attacks happen only after your child has been running or playing hard.

#### What are the symptoms?

Your child may experience a tight feeling in the chest, shortness of breath, or fast breathing. Your child may wheeze, making a raspy or whistling sound when he breathes. Sometimes your child may only have a cough.

You may discover this problem because you notice that your child gets short of breath more often than other children while playing. Once the wheezing or coughing starts, it may continue for an hour or more after the exercise is finished.

#### How is it treated?

Exercise asthma usually can be treated with an inhaled medicine. It is taken before exercise starts. We may recommend a single additional dose for any "breakthrough" episodes during exercise. It is important that you and your child clearly understand how and when to use the medicine.

### Mild Intermittent Asthma

#### What is it?

Asthma is a disease in which the air passages of the lungs are inflamed. This causes the air passages to over-react to a number of things. When the air passages react, more inflammation occurs. This causes the muscles surrounding them to tighten. Both the tightening and the inflammation cause the air passages to become narrow for a period of time. This can make it difficult to breathe. Inflammation also creates thick mucus in the air passages. This blocks them even more.

We call asthma "mild intermittent" when your child has symptoms no more than twice a week. There may be an occasional night waking due to asthma. Your child may have short episodes of asthma with no symptoms between attacks.

#### What are the symptoms?

Your child may experience a tight feeling in the chest, shortness of breath, or fast breathing. Your child may wheeze. This is a raspy or whistling sound when breathing. Sometimes your child may only have a cough. There may be no obvious breathing difficulty. Your child may wake up at night or in the morning with a cough or wheeze.

#### How is it treated?

Parents must understand asthma to help their children do well. You can learn to know when your child has trouble with asthma. With our help you can learn how to adjust your child's asthma medicines as needed. Most important, you can learn how to help your child avoid things that make asthma worse. For example, your child may need to avoid pollen, dust, or animal dander from fur or feathers. Cigarette and other smoke, perfume, and paint fumes must be avoided. Do not allow any smoking in your home or car or around your child. In summer, watch the local weather report for air quality warnings. Your child may need to stay indoors on days when air pollution is bad or pollen counts are high. Medicine will be needed to treat episodes of cough and wheezing. We call this rescue medicine. Your child may need similar medicine before exercise or other known triggers to prevent an attack. We want your child to be able to play, exercise, and attend school like any other child.

Your child may need to use one or more medicated sprays, liquids, or pills that can help. We may also teach your child to use a spacer. This is a device that makes it easier to use inhalers. Sometimes younger children with asthma need to be given medicine using a nebulizer machine at home. This allows you to give an inhaled medicine to a child who is too young to use an inhaler well.

Be sure that your child's school, teachers, and daycare workers know about your child's condition, treatment, and what to watch for.

We may recommend an annual flu shot for your child and your family. The flu can bring on a severe asthma episode. By getting flu shots every year, we may prevent this from happening.

### **Mild Persistent Asthma**

#### **What is it?**

Asthma is a disease in which the air passages of the lungs are inflamed. This causes the air passages to over-react to a variety of things. The muscles around the air passages tighten. Both the tightening and the inflammation cause the air passages to get narrower for a time. This can make it hard to breathe. Also thick mucus is created in the air passages. This blocks them even more. Asthma is called "mild persistent" if your child needs to use a rescue inhaler more than twice a week, but not every day. Your child wakes up at night with wheezing no more than twice a month.

#### **What are the symptoms?**

Your child may have a tight feeling in the chest, shortness of breath, or fast breathing. Your child may wheeze. This is a raspy or whistling sound made when breathing. Sometimes your child may only have a cough without any obvious breathing difficulty. Your child may occasionally wake up at night or in the morning with a cough or wheeze.

#### **How is it treated?**

Parents must understand asthma to help their children do well. You can learn to know when your child is getting worse. With our help you can learn how to adjust medicines. Most important, you can learn how to help your child avoid the things that make asthma worse. For instance, your child may need to avoid pollen, dust, or animal dander. Animal dander comes from animal skin, fur, or feathers. Cigarette and other smoke, perfume, and paint fumes must be avoided. Do not allow any smoking in your home, your car, or around your child. In summer, watch the local weather report for air quality warnings. Your child may need to stay indoors on days when air pollution is bad or pollen counts are high. The main problem with asthma is inflammation of the airways. Because of this, we may need to give your child a daily medicine to treat and prevent more inflammation. We may only give your child medicine to treat episodes of cough and wheezing. We call this rescue medicine since it is only used when your child has symptoms. Your child may need to use this medicine before exercise or other known triggers. It can help to prevent an attack. We want your child to be able to play, exercise, and attend school like any other child. Make sure you know the difference between the rescue medicine and daily medicine. As us if you aren't sure. We may also teach your child to use a spacer. This is a device that makes it easier to use inhalers. Sometimes younger children with asthma need to be given medicine using a nebulizer machine at home. This allows you to give an inhaled medicine to a child who is too young to use an inhaler well.

Be sure that your child's school, teachers, and daycare workers know about your child's condition and what to watch for. We may recommend an annual flu shot for your child and your family. The flu can bring on a severe asthma episode. By getting flu shots every year, we may prevent this from happening.

### **Moderate Persistent Asthma**

#### **What is it?**

Asthma is a disease in which the linings of the air passages of the lungs are inflamed. This causes the air passages to be over-reactive to a variety of things. When the air passages react more inflammation occurs. The muscles around the air passages tighten. Both the tightening and the inflammation cause the air passages to get narrower for a time. This can make it difficult to breathe. Also, thick mucus is created in the air passages. This blocks them even more.

Asthma is called "moderate" when your child has symptoms daily and has attacks where symptoms get much worse a couple of times a week. There may be occasional night waking due to asthma. This does not occur more than twice per week. Your child may sometimes have to limit activities because of asthma.

#### **What are the symptoms?**

Your child may have a tight feeling in the chest, shortness of breath or fast breathing. There may be wheezing. This is a raspy or whistling sound when breathing. Sometimes your child may only have a cough without any obvious breathing difficulty. Your child may wake up at night or in the morning with a cough or wheeze. Your child may limit exercise because of the asthma.

#### **How is it treated?**

Parents must understand asthma to help their children do well. You can learn to recognize when your child is getting worse. With our help you can learn how to adjust medications. Most important, you can learn how to help your child avoid things that make asthma worse. For example, your child may need to avoid pollen, dust, or animal dander. Animal dander comes from animal skin, fur, or feathers. Cigarette and other smoke, perfume, and paint fumes must be avoided. Do not allow any smoking in your home, your car, or around your child. In summer, watch the local weather report for air quality warnings. Your child may need to stay indoors on days when air pollution is bad or pollen counts are high. The main problem with asthma is inflammation of the airways. We may need to give your child a daily medicine to treat and prevent this. Medicine will be needed to treat episodes of cough and wheezing. We call this rescue medicine. Your child may need similar medicine before exercise or other known triggers. This will help to prevent an attack. We want your child to be able to play, exercise, and attend school like any other child. Your child may need to use one or more medicated sprays, liquids, or pills. These can help when taken properly. We may teach your child to use a small peak flow meter. The peak flow meter helps measure how well the medicines are working. We may also teach your child to use a spacer. This is a device that makes it easier to use inhalers. Sometimes younger children with asthma need to be given medicine using a nebulizer machine at home. This allows you to give an inhaled medicine to a child who is too young to use an inhaler well. Be sure that your child's school, teachers, and daycare workers know about your child's condition. They need to understand how to treat it and what to watch for. We may recommend an annual flu shot for your child and your family. The flu can bring on a severe asthma episode. By getting flu shots every year, we may prevent this from happening.

## **Severe Persistent Asthma**

### **What is it?**

Asthma is a disease in which the linings of the air passages in the lungs are inflamed. This causes the air passages to over-react to a variety of things. When the air passages react, more inflammation occurs. The muscles around the air passages tighten. Both the tightening and the inflammation cause the air passages to become narrower for a time. This can make it difficult to breathe. Also, thick mucus is created in the air passages. This blocks them even more. Asthma is severe when your child has symptoms every day and has frequent attacks. Severe asthma may often cause your child to wake during the night.

### **What are the symptoms?**

Your child may experience a tight feeling in the chest. The child may have shortness of breath or breathe fast. There may be wheezing. This is a raspy or whistling sound when breathing. Your child may cough frequently. Your child may wake up at night or in the morning with a cough or wheeze. Your child may limit exercise or other activity because of the asthma.

### **How is it treated?**

Parents must understand asthma to help their children do well. You can learn to recognize when your child's asthma is getting worse. With our help you can learn how to adjust your child's medicines as needed.

It is important for you to help your child learn what makes asthma worse. For example, your child may need to avoid pollen, dust, or animal dander. Dander is found in fur and feathers. Cigarette and other smoke, perfume, and paint fumes must be avoided. Do not allow any smoking in your home or car. There should be no smoking around your child at any time. We may test your child for allergies. We may suggest allergy shots to reduce your child's allergies.

Since the main problem with asthma is inflammation of the airways, we will probably need to give your child a daily medicine. We will do this to treat and prevent more inflammation. This is called maintenance medicine. Medicine will be needed to treat episodes of coughing and wheezing. We call this rescue medicine. Your child may need similar medicine before exercise or other known triggers. This will help prevent an attack. We want your child to be able to play, exercise, and attend school like any other child. We may teach your child to use a small peak flow meter. This will measure how well the medicines are working. The peak flow meter can also give you an early warning that an asthma episode is coming. We may also teach your child to use a spacer. This is a device that makes it easier to use an inhaler. Sometimes young children with asthma need to be given medicine using a nebulizer machine at home. This allows you to give an inhaled medicine to a child who is too young use an inhaler well.

Be sure that your child's school, teachers, and daycare workers know about the asthma. They should also know about your child's treatment and what to watch for. We may recommend annual flu shots for your child and your family. The flu can bring on a severe asthma episode. You may prevent this from happening by getting your child a flu shot every year.

## Asthma, Follow-Up Visit, Child

### Why do follow-up exams?

Our main purpose in the treatment of your child's asthma is to allow your child to feel well and to prevent more severe lung problems in the future. We want your child to have plenty of energy to play and participate in sports. We want your child to be able to go to school just like children who do not have asthma. In order to accomplish these goals, we want to keep your child's lungs working as well as possible.

Asthma is a chronic problem. It is due to inflammation of the lungs. There are times when this flares up, causing your child to wheeze, cough, or be short of breath. We want you and your family to understand the treatment and prevention of these asthma episodes.

We want to monitor how well your child responds to our treatments. We may need to change medicines or other treatments.

Your child may have trouble accepting the diagnosis of asthma. Your child may not want to cooperate with asthma treatments.

There may be some resistance to being monitored for it. There may be problems at school. We can help you with these.

Our job is to answer or help find answers to your child's questions and yours. We want you and your family to become experts at managing your child's asthma.

### What may be done during this exam?

We will ask how things are going with your child's treatments. It is important to know how often your child needs to use medicine to treat wheezing or cough. We will ask if your child wakes at night because of asthma. We may check breathing functions. We may also ask that you show us a peak flow diary, if you have one. We may ask how things are going in school and in other activities. We may suggest changes in your child's treatments.

### What to watch for.

Seek immediate care if your child has an attack that does not respond to treatment.

Let us know if your child is using asthma medicine more often than usual. Using more than 2 inhalers per year is a sign of poorly treated asthma. Call us if your child is unable to play or exercise as much as usual. Let us know if your child misses school because of the asthma. We want to know if your child wakes at night or coughs at night because of asthma. Let us know if the medicines cause side effects. We also want to know if your child does not cooperate with treatments.

### What advice may we have?

Never run out of your child's asthma medicines. Have your child bring them when traveling or spending the night away from home. Talk to your child's teachers about asthma treatments and danger signs.

If your child is old enough, we may ask that you keep a diary of peak flow measurements. We may also ask that you list asthma symptoms. We may want your child to take charge of asthma management. We may recommend an annual influenza shot for your child and possibly the rest of the family.

Learn what the triggers are for your child's asthma attacks. Avoid these triggers if possible. Do not allow cigarette smoking in your home or car.