

eAsthma Tracker

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NEWSLETTER

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What to Know When Sending a Child with Asthma to School

by Michelle Frazer

Have an Asthma Action Plan

If you don't have one yet, create a written asthma action plan with your doctor. This includes a list of your child's medicine and how it should be taken. It can also include asthma triggers and peak flow meter numbers. If you are unsure of your child's triggers, the eAsthma Tracker can help you identify if your child has any. Make sure your child's school has a copy of the action plan.

Communicate with Your School

Find out the processes by which your school will help manage your child's asthma. This may include the school nurse, your child's teacher, or other staff. Meet with those who will be involved in your child's asthma care at school and discuss how and when medications are to be taken. Also, let them know if your child can manage their asthma independently, or if they need help from a member of the school staff. Also make sure they know how to contact you and your child's doctor if need be.

Flare-Ups

Your child's quick-relief medicine should always be available at school. It should also be available for any off campus activities, such as field trips. If your child is not old enough to take their medicine on their own, it should be kept in the classroom or the nurse's office. If your child is old enough to know when and how to take their medicine, they should always have it with them.

Support

Your child might find it hard to stick with their asthma care at school. Ask the school staff to create a supportive environment that encourages your child to follow their asthma action plan. Help your child and the school staff to understand the importance of taking action immediately during an asthma attack.

Triggers

If your child has asthma triggers that may be encountered at school, you can work with school staff to help reduce these triggers. Some ideas include asking the school and staff to avoid using perfumed soaps and other scented products, to use dry-erase boards or "dustless" chalk, and to keep any caged pets out of your child's classroom.

This and more information can be found at <https://kidshealth.org/PrimaryChildrens/en/>



An Interview with the Creator of the eAsthma Tracker

by Aubrey Shunk

Dr. Nkoy is a Research Professor at the University of Utah, Department of Pediatrics and an Adjunct Associate Professor in the Department of Biomedical Informatics. His research interest focuses on the care of patients with asthma. In addition to clinical medicine, Dr. Nkoy's background includes training in public health, biomedical informatics and quality improvement with an emphasis on implementation and dissemination research. His work utilizes these skills to pioneer new approaches to improve care of children with chronic diseases and reduce the risks for acute exacerbations. Over recent years, Dr. Nkoy has been the Principal Investigator of three large research grants, two R18 grants from the Agency of Healthcare Research and Quality (AHRQ) and two grants from the patient centered outcomes research institute (PCORI).



Dr. Flory Nkoy

Hello. My name is Aubrey Shunk, and I am in 11th grade.

My name is Flory Nkoy, and I am originally from the Democratic Republic of Congo. I am a research professor in the Department of Pediatrics. I am also an adjunct associate professor in the Department of Biomedical Informatics. I have two Master's degrees: one in public health and one in biomedical informatics. And I completed a fellowship in both quality improvement and implementation and dissemination science, which is a new research area.

So, how did you come up with the idea for the eAsthma Tracker?

The idea came up based on the need. Myself and my collaborators developed and implemented medical interventions to improve asthma care in the hospital setting. We're also studying genetic markers; based on some markers, some patients were responding better to specific asthma inhaler medications. And when we were doing this study, we were recruiting patients with a history of asthma who came to the Emergency Department for non-asthma related medical problems.

“Our goal is to be more proactive instead of reactive.”

It was surprising – about 70 percent of them had asthma that was not well controlled. Asthma is a big problem in the community, and the care is more reactive, meaning patients are seeing their providers mostly when they have an asthma attack. This is why we came up with the idea to develop the eAsthma Tracker.

The idea was to develop a tool that families can use between visits when they are not seeing their provider, so that they can track their asthma, identify those early changes in asthma symptoms and then record activity to improve asthma control. It has been shown if you have poor asthma control, your risk for an asthma attack is high. So, our goal is to be more proactive instead of reactive, to prevent asthma attacks, rather than treating

Nkoy Interview Continues on page 4...

asthma attacks.

Why did you want to create it?

The goal was mostly to support patients, because if you have poor asthma control, your quality of life is also affected. For example, a child may think their asthma control is good, but be unable to participate in sports. So, we wanted to create the eAsthma Tracker to make the patient better and improve their quality of life, as well as arm their providers with better information so they can better treat their patients.

Where do you hope to see the eAsthma Tracker going in the future?

Yes, that's a very good question. I would like to see the eAsthma Tracker used widely, by both clinics and patients not only in Utah, but also outside Utah. And I would also like to see the eAsthma Tracker used in adults, as well as in research because the tracker can support clinical research for asthma.

“We wanted to create the eAsthma Tracker to make the patient better and improve their quality of life.”

How do you see asthma care changing in the future?

More people are doing genetic studies to find which treatment is most appropriate for specific patients. What I'm seeing in the future is increased use of tools like the eAsthma Tracker and other monitoring devices. Overall, asthma care is moving toward is what is called personalized care, meaning treatment based on individual symptoms – like how the eAsthma Tracker is capturing your symptoms. The provider will know the pattern of your symptoms, and then the treatment will be based on those symptoms, in addition to personal genetic expressions. The goal is to personalize the care, to ensure it's not one-way-fits-all.

And lastly, can you see using a similar tracker for other health conditions?

Yes, our team has identified many conditions – about sixteen – that would benefit from our current eAsthma Tracker model. We have already developed a new tool that we call MyChildCMC. We've published a preliminary paper based on pilot data, and we are planning to do a larger study to demonstrate the impact. And then after that, we're going to do the dissemination as we are doing with the current project with the eAsthma Tracker.

That's all the questions that I have; thank you!

5 Things to Know When Your Child is Diagnosed With Asthma

by Lis Malmgren

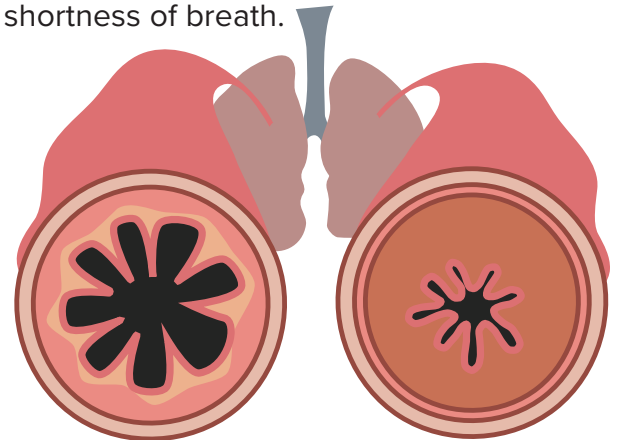


1 Know your child's triggers

Asthma can be triggered by a wide range of things that vary from person to person. As you become aware of your child's triggers, talk to your doctor about the best way to manage and limit your child's exposure to them.

2 Your child will not always wheeze during a flare-up

While wheezing is a common indicator of an asthma attack, asthma can also show up as coughing fits, chest tightness, and shortness of breath.



Normal windpipe

Inflamed windpipe in asthmatics

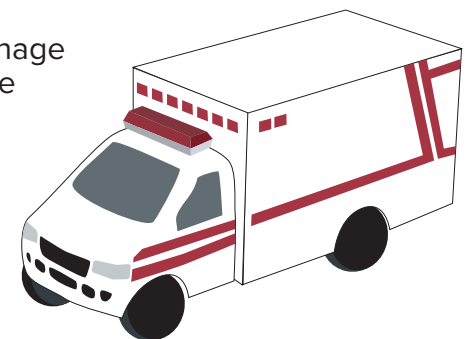
3 Your child can participate in normal activities

By working with your health care provider, using the proper medications, and using the eAsthma Tracker (eAT), you can manage your child's asthma so they can participate in normal activities.



4 An untreated asthma attack can turn into an emergency

Tracking your child's asthma with the eAT helps reduce the amount of time your child will spend in the hospital and emergency rooms due to asthma attacks. Continual use will help you manage your child's symptoms and decrease the severity and frequency of flare-ups.



5 Keep an asthma diary

You can also use the notes function in the eAT to keep track of flare-up and identify your child's triggers.



How Does Asthma Affect Your Body?

by Heidi Shunk

Have you ever had an elephant sit on your chest?

As an asthmatic, that is exactly what it feels like when you are having an asthma attack.

What causes that feeling? According to the American Lung Association, “with asthma, your airways' lining tends to always be in a hypersensitive state characterized by redness and swelling

(inflammation). It's similar to how your skin becomes red, irritated and sensitive after a sunburn. This hypersensitive state makes the airways react to things that you are exposed to every day, or asthma ‘triggers.’”¹



This means that triggers or irritants that may not affect others can have a significant effect on you. When you have an asthma attack, the muscles around your airways tighten, become more inflamed and swell; as a result, air has a harder time flowing through your lungs, and you struggle to catch your breath. You may have coughing fits, wheezing, and in extreme cases even gasp for air. All of this takes quite a toll on your body, and you can find yourself extremely tired and lacking energy. Left untreated, asthma can even cause

permanent scarring on the lining of your lungs. Now the question becomes, how do I keep this from happening to me or a loved one?

Keeping your asthma under control is the answer. If the symptoms above sound like you or someone you love and you have not been diagnosed with asthma, now is a great time to set up an appointment with your doctor or an asthma specialist. They can test your lungs with a simple breathing test, which will measure the output of air that your lungs are currently able to produce. Your doctor will then discuss a treatment plan that will help get you and your lungs back on track so that asthma attacks are no longer a frequent part of your life. Asthma can be quite manageable and as you continue to work closely with your doctor, you will see less effects on your body and you will learn what triggers your asthma, so that you can avoid them whenever possible and have a plan for the unavoidable. Remember to stick to your treatment plan; as you do, you will notice that asthma is no longer controlling your life.



1 <https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma/learn-about-asthma/how-asthma-affects-your-body>

Inhalers and Spacers

by Dr. Joseph Johnson

Any child with asthma has a few options of devices to use to treat their asthma.

Here is a list:

1. Metered-dose Inhaler (MDI)
2. Dry-Powder Inhaler (DPI)
3. Nebulizer (Neb)

Depending on your child's ability to cooperate, your doctor may choose any one or a combination of the above devices. Let me explain how each one works:



Metered-dose Inhaler: These contain a pressurized gas (most commonly Hydrofluoroalkanes) as a propellant to deliver the medicine. There are two types of MDIs. The first, known as a standard inhaler, is most common and requires the person giving it to push down on a canister connected to a mouthpiece to deliver the puff. These inhalers work best if it is shaken just before using it. A new technology, called an “autohaler,” delivers the puff when the person inhales with sufficient force to activate it. After inhaling a puff, it is recommended to have the person hold his/her breath for about 5 seconds to let the medicine settle in the lungs



Dry-powder Inhaler: These devices contain powder that is released when the person takes a deep inspiration. No gas is used to propel the medicine into the lungs, so the person must be able to inhale with enough force to get the medicine out of the device. Because this requires a deeper breath, these devices are usually used for older children, adolescents, and adults. As with an MDI, the breath should be held for a few seconds after inhaling to allow the medicine to settle in the lungs.



Nebulizer: This is a machine that uses air to break up liquid forms of medicine into a fine mist, or aerosol. The patient simply sits with a mask over their face and breathes in the mist until it is mostly gone. Treatment with a nebulizer usually takes between 10-15 minutes. Nebulizers are used most often in younger children (usually under age 2-3), who are not as capable of using MDIs correctly. They are also more often used in doctor's offices or emergency departments because they can be used in single doses and given to many people from the same box of medicine, which is not possible with inhalers.



Standard MDIs (not the autohaler-type) are often used with a device called a “spacer.” This allows for more effective delivery of the medication into the lungs because it does not require coordination for the person to breathe in when the canister is pushed down to deliver the puff. Instead, a facemask or mouthpiece is placed around/in the person's mouth, and they simply take a few deep breaths (I recommend 5-6) each time a puff is given into the spacer.

Inhalers and Spacers Continues on page 6...

... Inhalers and Spacers Continued

There are many different types of spacers, and your doctor will help you find the right one for your child. Studies have shown that if an MDI is used with a spacer, the medication is delivered more consistently and effectively than it would be using the MDI alone.

It is generally recommended to use a spacer with children under the age of about 12 but there is also good evidence that even older children, adolescents, and adults get more medication with each puff by using a spacer. If used correctly with a spacer, the medication from the MDI can be delivered as effectively as with a nebulizer, and it takes much less time (i.e., 30 seconds vs. 10 minutes).

Care of your asthma devices

- All inhalers should be stored at room temperature.
- Most inhalers nowadays have a counter somewhere on the device that shows you how many doses of medicine are left in the device.
- Inhalers do expire. It is a good idea to write the expiration date on the device with a Sharpie when you open it so that you know when to ask your doctor for a new one.
- If you are using a nebulizer, it is good to wash the cup and mask after each use and let them air-dry. You should not wash the tubing connecting the machine to the cup. It is a good idea to ask your doctor for more supplies for your nebulizer every 6-12 months.
- Spacers can develop static on the side of the tube that can attract particles of the medicine, meaning less of it will get through the device to your lungs. This can be fixed by washing the device about once a month with soap and water and allowing it to air-dry. It is best to look at the manufacturer's instructions that come with the device for details.



Wash your spacer once a month with soap and water



Allow it to air-dry

Join The eAsthma Tracker Community



Facebook Group

Join the discussion! Members of our eAsthma Tracker Facebook community are encouraged to share their experiences with the tracker and asthma in general. To join, scan the QR code or visit [facebook.com/eastmatracker](https://www.facebook.com/eastmatracker).

eAsthma Tracker Newsletters

Visit our newsletter archive by scanning the QR code (or visit <http://bit.ly/eatnewsletters>) to browse the collection of all our newsletters compiled by eAsthma Tracker parents.



Have questions about the eAsthma Tracker?

Want to talk to an experienced parent?

The eAsthma Tracker team works closely with a group of parent partners to ensure the tool is effective and accessible to all patients and families. Our parent partners are excited to connect with eAsthma Tracker parents like yourself! Contact your eAsthma Tracker parent partner using the below contact information. They can help answer any questions you may have, address concerns, and provide helpful tips for using the eAsthma Tracker.

EMAIL: AsthmaTrackerParent@gmail.com
(Please schedule a time to call via email)

If you are having technical difficulties using the eAsthma Tracker, contact asthmatracker@hsc.utah.edu for support.