

Kids with asthma need more help with inhalers

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Fewer than one in 10 children with asthma use traditional inhalers correctly, according to a new study from the University of North Carolina at Chapel Hill.

While [children](#) have more success with newer inhaler designs, at best only one child in four gets it completely right, according to the findings published online March 28, 2011, in the journal *Pediatrics*.

[Asthma](#) is the most common [chronic condition](#) among American children. Related health-care costs are estimated at more than \$6 billion a year, and lost productivity costs associated with working parents caring for children who miss school are estimated at \$1 billion a year.

Researchers led by Betsy Sleath, Ph.D., at the UNC Eshelman School of Pharmacy studied 296 North Carolina patients aged 8 to 16 years old who used four different devices to manage their asthma. The devices were:

- the metered-dose inhaler (commonly called a puffer);
- the diskus, a dry-powder inhaler delivering Advair;
- the turbuhaler, a dry-powder inhaler delivering Pulimcort or Symbicort; and
- the peak-flow meter, which does not deliver a drug but is used to measure lung function to determine if medicine is needed.

Only 8.1 percent of children in the study performed all of the metered-

dose inhaler steps correctly. Older children were more likely than younger children to get more of the metered-dose inhaler steps correct. With a diskus, 21.9 percent of children performed all steps correctly, and 15.6 percent performed all of the turbuhaler steps correctly. Children using a peak-flow meter did so correctly 23.9 percent of the time.

The researchers also found that the majority of health-care providers who participated in the study (41 providers at five clinics) did not demonstrate or assess children's use of the four devices during pediatric asthma visits.

“It is crucial that health-care providers not only show a child how to use an [inhaler](#) correctly but also have the child demonstrate the device in front of a physician or pharmacist,” Sleath said. “Pediatric practices are extremely busy places so we need innovative ways to demonstrate and assess device technique among asthmatic children.”

Improper use of inhalers and other asthma medication devices can lead to poor control of the condition, more hospitalizations and increased health-care costs, she said.

Previous studies have noted the need for providers to demonstrate and make sure children understand proper techniques for using asthma medication and monitoring devices. In 2007, a National Heart, Lung and Blood Institute expert panel report on the diagnosis and management of asthma encouraged providers to educate children on these techniques.

Provided by University of North Carolina at Chapel Hill

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