

Testimony for Senate Bill 180

March 20th 2024

Public and Nonpublic Schools – Auto-Injectable Epinephrine and Bronchodilators – Use, Availability, Training, and Policies

Dear Committee Members,

Thank you for allowing me to provide my testimony in support of this bill which would provide albuterol in emergency situations within the Maryland schools. My name is Sara Choi, and I am a pediatric pharmacist at the Johns Hopkins Pediatric Emergency Department. As a health care provider who sees first hand many children presenting to the emergency department due to respiratory distress, I am testifying today to the safety and efficacy of albuterol inhalers and to the necessity of this legislation.

In the event of an asthma attack, inflammation and constriction of the small, microscopic airways in the lungs can lead to difficulty breathing, wheezing, and respiratory distress. Albuterol is a medication that works quickly to relax the smooth muscles in these small airways, which opens them up and makes it easier for a person to breathe. Patients with asthma refer to this medication as their “rescue inhaler,” and it is an essential medication for them to have access to at all times. Immediate interventions are necessary in anyone presenting with severe respiratory distress because, if untreated, an asthma attack can lead to cardiorespiratory arrest and potentially death. Albuterol was first approved by the FDA in 1981, so it is a familiar medication to the health care community and the general population¹. There is inaccurate information that albuterol can kill a patient. This is false information as albuterol is extremely effective and one of the safest medications we use. Albuterol has a quick onset of action of less than 5 minutes and has minor adverse effects including tremor, increased heart rate (tachycardia), and nervousness. The only contraindication to administering albuterol is a previous anaphylactic reaction to albuterol, which is extremely rare.

There is also misinformation that epinephrine via an auto-injector which is also known as Epi-Pen should be given as a first line treatment during an asthma exacerbation. Asthma exacerbation is not an FDA approved indication for the administration of epinephrine. Rather it is off-label, meaning it is used without an approved indication. In the emergency department, if all medication options are administered and a patient is still wheezing and in acute distress, epinephrine can be administered as a last line resort for refractory situations. However, this is after multiple doses of albuterol which is the gold standard medication, ipratropium, magnesium sulfate, corticosteroids, and terbutaline. All of these medications are provided prior to the decision to administer epinephrine, and there are specific guideline algorithms for asthma exacerbations. Additionally, there are many significant adverse effects with epinephrine some of which are cardiac arrhythmias, tissue necrosis, and hypertension. Epinephrine is not a medication without its side effects, and albuterol is significantly safer and the first line treatment option for asthma exacerbations.

Interventions for a child in respiratory distress from asthma is time sensitive, vital, and directly impacts medical outcomes. Although albuterol will be most effective if the breathing emergency is due to asthma, it is important that the law is written in a way that any child presenting with respiratory distress can be treated with albuterol. Albuterol should not be limited to specific indications as some children have undiagnosed asthma.

A child's first asthma attack may occur at school or perhaps the child may have experienced an asthma attack but not yet received the appropriate diagnosis of asthma by a healthcare provider. Additionally, a child may have a past medical history of asthma, but for some reason, the school is not aware. A diverse number of other examples can be imagined, but the bottom line is that the vast majority of children exhibiting respiratory distress at school will be having these symptoms due to asthma.

The benefit of administering albuterol in a child presenting with respiratory distress outweighs any potential risk of albuterol as this can be a matter of life and death. In the event that the child has respiratory distress for another reason such as pneumonia, administering albuterol, regardless of asthma diagnosis, would not cause patient harm or death. It would simply not help very much in this situation. Again, albuterol does not kill a patient. Withholding albuterol from a child that desperately needs it will kill a person. Providing albuterol in a child who presents with respiratory distress, but does not have asthma, may cause some mild, short-term tachycardia which can last for about four hours². On the other hand, administering albuterol in a child who presents with respiratory distress with undiagnosed asthma, but actually has asthma, will save this child's life. The low risk of increased heart rate as a side effect is incomparable to saving a child's life and is definitely worth providing albuterol in any acute respiratory distress. Furthermore, the administration of an albuterol inhaler through a spacer is straightforward and easy, allowing school administration staff to safely administer to students in need.

Working in the pediatric emergency department, I frequently see children presenting with difficulty breathing throughout all seasons of the year. Sometimes these children are not yet diagnosed with asthma but present with the typical symptoms of asthma including, but not limited to, wheezing, coughing, shortness of breath, and/or chest tightness. Some children, whether they are known asthmatics or newly diagnosed with asthma, present in extreme respiratory distress leading to intubation and mechanical ventilator use due to the severity of the asthma exacerbation. Thankfully, the pediatric emergency department is a well-equipped environment and has the abundant resources a child needs to receive necessary treatment as well as physicians and nurses who are able to appropriately prescribe and administer therapy. Although a school environment has minimal resources, the provision to administer albuterol can be a life-saving treatment when a physician assessment is delayed. Additionally, in a school setting, there are multiple factors that can further delay the medical care for a child such as the wait for an ambulance to arrive and the transportation time to the hospital. The time between when a child shows respiratory distress and to when the child arrives to a hospital are critical moments that must be taken advantage of.

Thank you again for the opportunity to testify in support of this bill. I urge you as a pediatric pharmacist and a healthcare advocate for children, to please be in favor of this legislation in order to provide a safe medical plan in schools for our vulnerable pediatric population. Albuterol is a safe, effective, and necessary tool for our children to have access to in schools.

Sincerely,



Sara Choi, PharmD, BCPPS
Pediatric Emergency Medicine Clinical Pharmacy Specialist
The Johns Hopkins Hospital
Department of Pharmacy
1800 Orleans St., Bloomberg 7234
Baltimore, MD 21287

Disclosure: The views expressed in this testimony are my own and do not necessarily reflect the policies or positions of my employer, Johns Hopkins Hospital.

References:

1. Accessdata.fda.gov. 2023. Drugs@FDA: FDA-Approved Drugs. [online] Available at: <https://www.accessdata.fda.gov/scripts/cder/daf/index.cfm?event=reportsSearch.process&rptName=1&reportSelectMonth=5&reportSelectYear=1981&nav>. Accessed 6 February 2023.
2. Albuterol. Lexi-Drugs. Lexicomp. Wolters Kluwer Health, Inc. Riverwoods, IL. Available at: <http://online.lexi.com>. Accessed 6 February 2023.