Maryland
STATE DEPARTMENT OF EDUCATION

Public and Nonpublic Schools – Bronchodilators – Use, Availability, Training, and Policies

Md. Code, Educ. §7-426.6 and 7-426.7

Division of Student Support and Federal Programs

Presentation Outline

1. Purpose and Background
2. Policy
3. Training
4. Documentation/Reporting Requirements

Overview of HB 86/SB 180

Passed during the 2024 General Assembly Session, Md. Code, Educ. § 7-426.6 and § 7-426.7 require:

- The Maryland Department of Health (MDH) to establish a policy for public schools to authorize school nurses and designated school personnel who have undergone certain training to administer a stock bronchodilator to a student who is determined to be or perceived to be experiencing asthma-related symptoms or is perceived to be in respiratory distress;
    - The legislation also authorizes nonpublic schools to establish a similar policy;
- The Maryland State Department of Education (MSDE) to develop training for school nurses and designated school personnel to recognize the need to administer a bronchodilator to a student; and
- MSDE to develop and disseminate standard forms to record and report each incident requiring the use of a stock bronchodilator in a public school.

Restrictions of Md. Code, Educ. § 7-426.6 and § 7-426.7

Neither a school nurse nor any other designated school personnel may administer a stock bronchodilator to a *prekindergarten* student unless:

- The student has been diagnosed with asthma or a reactive airway disease; **AND**
- Has a prescription (i.e. medication order) for a bronchodilator by the student's health care practitioner.

Policy - Use of Stock Bronchodilators in Maryland Schools

MDH, in consultation with county boards, has established a policy for public schools that includes:

- The training required;
- Procedures for the emergency administration of a bronchodilator by a school nurse or designated school personnel and the proper follow-up emergency procedures:
- Procedures for recognizing the need to administer a bronchodilator and for administering a bronchodilator based on the severity of the symptoms being experienced by the student;
- The requirement that bronchodilators and modes of delivery, including inhalers with spacers, be stored in public schools to be used in an emergency situation;
- A provision authorizing a county board to obtain a standing order for the administration of bronchodilators; and
- A requirement that each public school develop and implement a method for notifying the parents or guardians of students of the school's policy under this section at the beginning of each school year.

Training

MSDE, in consultation with MDH, the American Lung Association, and the Asthma and Allergy Foundation of America, has developed this training to be provided to school nurses and voluntary school personnel

Voluntary school personnel are:

- Designated by a school nurse, and
- In the clinical judgment of the school nurse, appropriate recipients of the training.

Training

Training shall be a paid professional development training and include the following:

- How to identify the symptoms of asthma and respiratory distress;
- How to identify the symptoms of anaphylaxis; and
- How to distinguish between anaphylaxis and asthma or respiratory distress.

What is Asthma?

- Asthma is a chronic lung disease.
- Asthma inflames and narrows air passages in the lungs.
- This causes recurring periods of wheezing, chest tightness, shortness of breath, and coughing.

Triggers of Asthma

Asthma symptoms can be triggered by:

- Allergens (e.g., common triggers include seasonal pollen, mold spores, dust, or pet dander);
- Respiratory infections;
- Airway irritants;
- Pollution;
- Weather changes;
- Exercise (e.g., exercise induced asthma is caused when the airways narrow during physical activity causing shortness of breath during or after exercise).

Asthma Treatment

- Asthma symptoms can vary in severity and may come and go over time.
- Asthma must be recognized and managed appropriately to prevent complications such as missed school and hospitalizations.
- While there is no specific cure for asthma, there are treatments that can help control the symptoms.
- The most common medication treatments include:
  - Rescue or quick-relief medications, such as albuterol (a bronchodilator);
  - Controller medications, such as steroids; and
  - Combination of quick-relief and controller medications.

What is Respiratory Distress?

Respiratory distress is a medical term for difficulty breathing.

- You can tell a person is in respiratory distress by their symptoms.
- The most common cause of respiratory distress in school-age children is **asthma.**
- Respiratory distress may be considered “mild to moderate” or “severe” based on the symptoms present.

Mild to Moderate Respiratory Distress

Mild to moderate symptoms of respiratory distress may include one or more of the following:

- Fast, shallow breathing
- Breathing hard, shortness of breath
- Repeated coughing or clearing of throat
- Wheezing, which may sound like whistling or squeaking in chest
- Chest tightness or pain
- May have difficulty speaking in full sentences

Severe Respiratory Distress

Severe symptoms of respiratory distress may include one or more of the following:

- Struggling to breathe and/or severe shortness of breath (gasping for air, can't get air into their lungs), hunched over
- Consistent coughing, wheezing, tightness in the chest
- Difficulty speaking (one word or short sentences)
- Flaring (widening) of nostrils
- Chest retractions (chest/neck are pulling in)
- Use of accessory muscles (stomach muscles are moving up and down)
- Blueness around the lips or fingernails (may look gray or "dusky")
- Restless or agitated

Medical Response to Mild to Moderate Respiratory Distress

Determine that the student is experiencing mild to moderate respiratory distress based on the signs and symptoms present. Act quickly as it is safer to give albuterol than to delay treatment.

- Never leave a student alone. Have the student sit in a chair, or on the ground, and restrict physical activity.
- Call for help.
- Administer albuterol as recommended below:
  - Administer **four puffs** of albuterol MDI with a spacer, each 30–60 seconds between puffs, or one unit or ampule dose of albuterol via nebulizer per standing order.
- If available, a Registered Nurse/Licensed Practical Nurse should obtain and continue to monitor vital signs (pulse, respiratory rate, blood pressure, and/or pulse oximetry if available) every five minutes or as needed.

Medical Response to Mild to Moderate Respiratory Distress-Cont'd

- **If symptoms improve and the student's breathing returns to normal** (no tightness in chest, no shortness of breath, and student can walk and talk easily)
  - The student may return to class at the discretion of the school nurse and with parent/guardian notification (see **Parent/Guardian Notification and Student Disposition** for exceptions).
  - Instruct the parent/guardian to have their child follow-up with a healthcare provider.
- **If there is no improvement in symptoms in 15 to 20 minutes**
  - **Repeat four puffs** of albuterol MDI with a spacer, each 30-60 seconds between puffs, or an additional one unit or ampule dose of albuterol via nebulizer.
- **Call EMS/9-1-1 and follow the actions for** Severe Respiratory Distress.
- Notify parent/guardian and school administration.

Medical Response to Severe Respiratory Distress

Based on symptoms, determine that severe respiratory distress appears to be occurring. Act quickly as it is safer to give albuterol than to delay treatment.

- **Call EMS/9-1-1 immediately.**
- Never leave a student alone. Have the student sit in a chair, or on the ground, and restrict physical activity. Encourage slow breaths.
- Call for help.
- Administer albuterol as recommended below:
  - Administer **eight puffs** of albuterol MDI with a spacer, each 30-60 seconds between puffs, or one unit or ampule dose of albuterol via nebulizer per standing order.

Medical Response to Severe Respiratory Distress-Cont'd

- If available, a Registered Nurse/Licensed Practical Nurse should obtain and continue to monitor vital signs (pulse, respiratory rate, blood pressure, and/or pulse oximetry if available) every five minutes or as needed.
- **If there is no improvement in symptoms in 15 minutes and EMS/9-1-1 has not yet arrived:**
  - **Repeat eight more puffs** of albuterol MDI with a spacer, each 30-60 seconds apart between puffs, or an additional one unit or ampule of albuterol via nebulizer.
- If a student becomes unresponsive, initiate CPR or rescue breathing as per BLS training.
- Monitor the student continuously until EMS/9-1-1 arrives.
- Notify parent/guardian and school administration.

What is Anaphylaxis?

- Anaphylaxis is a life-threatening, severe allergic reaction.
- Anaphylaxis is caused by exposure or ingestion of something to which a person is allergic (an allergen).
- Symptoms occur in multiple body systems including the skin, lungs, heart, and gastrointestinal system.

Anaphylaxis Triggers

Common triggers of anaphylaxis can include the following allergens:

- Food: e.g., cow's milk, eggs, peanuts, tree nuts, wheat, soy, fish, shellfish, sesame
- Insect venom: e.g., bee stings, wasps, and yellow jackets
- Medication: e.g., penicillin and amoxicillin
- Latex

Symptoms of Anaphylaxis

The common symptoms of anaphylaxis include:

- Hives or red, itchy skin;
- Swelling of the lips, throat, tongue, and difficulty swallowing;
- Cough, chest tightness, difficulty breathing;
- Stomach pain, nausea, vomiting or diarrhea;
- Dizziness, headaches, sweating

Symptoms typically begin within minutes of exposure to the allergen and may progress quickly.

Anaphylaxis Treatment

Anaphylaxis is a life-threatening emergency and can cause death in less than 15 minutes

- It is imperative to call **EMS/9-1-1** immediately and administer **epinephrine**
- Follow the guidelines for management of anaphylaxis (*Management of Anaphylaxis in Schools).*

Asthma and Anaphylaxis

- Both asthma and anaphylaxis can lead to respiratory distress, although asthma is much more common.
- Some people with asthma also have allergies and anaphylaxis.
- Both conditions can cause sudden-onset, life-threatening emergencies, so it is important to know how to differentiate between them.

Asthma vs. Anaphylaxis Symptoms

- Both may have symptoms of respiratory distress including coughing, wheezing, and shortness of breath
- When severe, both can cause bluish skin, confusion or agitation, loss of consciousness (passing out), and potentially death
- **In asthma, there will be no hives, swelling, vomiting or diarrhea.**

Asthma vs. Anaphylaxis Onset

- Onset of symptoms can be sudden in both asthma and anaphylaxis, but asthma symptoms tend to start more slowly and worsen over time.

- A sudden onset of difficulty breathing soon after an insect sting or ingestion of food or medication is more likely to be anaphylaxis, not asthma.

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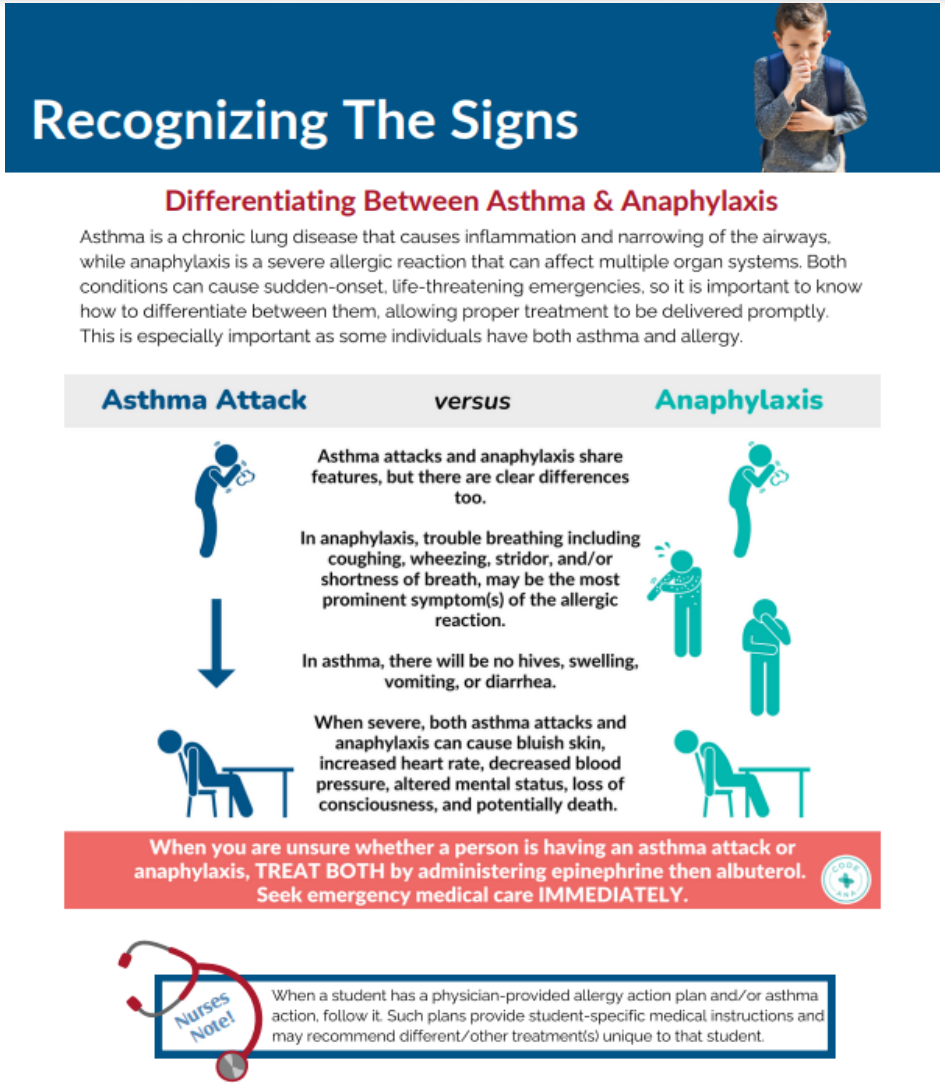
Asthma vs. Anaphylaxis



American Academy of Allergy Asthma and Immunology

Medical Response to Students with Respiratory Distress Who May be Experiencing Anaphylaxis

- If a student is, or is perceived to be experiencing anaphylaxis, school nurses and other designated school personnel should administer epinephrine as trained.
- **However, if a school nurse or other designated school personnel is unsure if a student is experiencing respiratory distress due to asthma or anaphylaxis, they should treat both by administering epinephrine then a bronchodilator.**
- **EMS/9-1-1 should always be called** when epinephrine is administered by school staff. Please refer to the school health services guideline, *Management of Anaphylaxis in Schools*.

Documentation

For each incident at the school or at a related school event that requires the use of a stock bronchodilator, each public school shall:

- Notify the student's parent or legal guardian of the incident; and
- Make a record of the incident, on the form that the department requires, and file the form in the student's school medical record.

Reporting

- School health services staff should document symptoms of respiratory distress, intervention, disposition, and referral/follow up care in the student health record following administration of a stock bronchodilator.
- For each incident at the school or at a related school event that requires the use of a stock bronchodilator, each public school must report the incident to MSDE on a form developed for this purpose within two (2) school days.
    - A copy of this form should also be filed in the student's health record.
- In addition, each public school must annually report to MSDE the total number of incidents at the school or at a related school event that required the use of a stock bronchodilator.

References

Allergy and Asthma Network. *Anaphylaxis*. https://allergyasthmanetwork.org/anaphylaxis/

American Academy of Allergy Asthma and Immunology. *School-based asthma allergy anaphylaxis management program stock inhaler toolkit*. https://www.aaaai.org/Aaaai/media/Media-Library-PDFs/Tools%20for%20the%20Public/School%20Tools/Stock-Inhaler-Toolkit-for-Schools.pdf

American Lung Association. *Asthma*. https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma

Maryland State Department of Education (2024). *Guidelines for use of stock bronchodilators in maryland schools*. https://marylandpublicschools.org/about/Pages/DSFSS/SSSP/SHS/SHSGuidelines.aspx

Mayo Clinic. *Asthma – Symptoms and causes*. https://www.mayoclinic.org/diseases-conditions/asthma/symptoms-causes/syc-20369653

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