Use of Stock Bronchodilators in Maryland Schools

Maryland State School Health Services Guidelines

January 2025

Maryland
STATE DEPARTMENT OF EDUCATION
DEPARTMENT OF HEALTH

MARYLAND STATE DEPARTMENT OF EDUCATION

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Foreword

There is a strong relationship between academic achievement and a child's physical, emotional, and mental health. This link is the foundation for providing school health services as an important component of a school program. School health services provide primary prevention aimed at keeping students in schools through appropriate screenings; early identification of children at risk for physical, emotional, and mental health concerns; and case management of students with chronic health concerns.

The Maryland Code Annotated, Education § 7-401 (Md. Code Ann., Educ. § 7-401) requires the Maryland State Department of Education (MSDE) and the Maryland Department of Health (MDH) to jointly develop public standards and guidelines for school health programs. The following guidelines were developed in accordance with that requirement and are based on the expressed needs of the local school health services programs. The guidelines developed under Md. Code Ann., Educ. § 7-401 contain recommendations for minimum standards of care and current best practices for the health service topics addressed. It is intended that these guidelines will be used by the local education agencies (LEAs) in developing policies and procedures to assist local school health services programs in providing consistent and safe care to the students of Maryland. Specific laws and regulations that direct school nursing practice or other health services are identified in the guidelines.

To implement these guidelines, LEAs and local health departments should consult with MSDE and MDH who will:

- Assist and provide technical assistance to local school health services programs to support their efforts to plan for students with special health needs;
- Provide training to all appropriate school staff regarding issues related to students with special health needs including, but not limited to, planning, maintaining a safe environment, and medication administration issues; and
- Monitor the implementation of school health services programs including, but not limited to, programs and policies related to students with special health needs.

Section I: Introduction

PURPOSE

The purpose of these guidelines is to:

- Provide guidance to school health services program staff for the management and coordination of care of students who are, or are perceived to be experiencing asthma-related symptoms or respiratory distress and who do not have a personal bronchodilator readily available in school; and
- Provide guidance to school health services programs in the development and implementation of policies and procedures regarding the use of stock bronchodilators pursuant to Md. Code Ann., Educ. § 7-426.6 and § 7-426.7.

BACKGROUND

Legal Authority

The Md. Code Ann., Educ. § 7-426.6, enacted in 2024, requires the Maryland Department of Health, in consultation with county boards, to establish a policy authorizing the school nurse and designated school personnel who have undergone specific training to administer a 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; except for prekindergarten students, the policy shall authorize administration of a bronchodilator regardless of whether the student has been diagnosed with asthma or reactive airway disease or has been prescribed a bronchodilator.

The policy established under Md. Code Ann., Educ. § 7-426.6 shall also include certain training for school nurses and designated school personnel; procedures for recognizing the need to administer a bronchodilator and for emergency administration and follow-up; a requirement for bronchodilators and modes of delivery to be stored in public schools to be used in an emergency; a provision authorizing county boards to obtain a standing order for the administration of a bronchodilator; and a method for parent/guardian notification of the policy at the beginning of each school year.

Under Md. Code Ann., Educ. § 7-426.7, also enacted in 2024, a nonpublic school may establish a policy to administer a bronchodilator to a student that includes the same general requirements as the policy established under Md. Code Ann., Educ. § 7-426.6.

Both statutes require bronchodilators and modes of administration used by a school nurse or designated school personnel to be from a licensed pharmacy or manufacturer.

Definitions

For the purpose of these guidelines, the following terms have the meanings as indicated.

Asthma is a chronic lung disease that inflames and narrows air passages, causing recurring periods of wheezing, chest tightness, shortness of breath, and coughing.

A **bronchodilator** is a medication that relaxes bronchial muscles, resulting in the expansion of bronchial air passages to provide fast treatment of asthma-related symptoms and symptoms of respiratory

distress. In this guideline, "bronchodilator" refers to albuterol or albuterol sulfate, an orally inhaled medication that may be delivered via metered dose inhaler (MDI) or nebulizer.

A **stock bronchodilator** is a bronchodilator that is kept on hand in a school to be used in the event of an emergency when a student is, or is perceived to be, experiencing asthma-related symptoms or respiratory distress and the student does not have a bronchodilator of their own readily available.

School personnel are individuals who are employed by a public school, or, in the case of some school health staff, by a local health department. School personnel includes part-time employees, teachers, substitute teachers employed by the school for at least seven (7) days each school year, registered case managers, delegating nurses, and administrative staff.

Additional definitions can be found in Section III: Glossary.

Section II: Implementation of a Stock Bronchodilator Program

TRAINING REQUIREMENTS OF SCHOOL PERSONNEL

Md. Code Ann., Educ. § 7-426.6 and § 7-426.7 require training to be provided to school nurses and voluntary school personnel who are designated by a school nurse and, in the clinical judgment of the school nurse, are appropriate recipients of the training. For nonpublic schools, this training is only required in schools that establish a policy authorizing the administration of stock bronchodilators. Training shall be a paid professional development training and include the following:

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

This training will enable nurses and designated school personnel to recognize the need to administer a bronchodilator to a student. LEAs and nonpublic schools may use the training developed by MSDE and MDH which can be accessed on the MSDE School Health Services Guidelines webpage. They may also develop their own training as long as it includes all of the required components.

In addition to the training as required above, designated school personnel should have training conducted by a school nurse (registered nurse) on policies and procedures for:

- Administration of a bronchodilator to a student via metered dose inhaler and spacer and for assisting a student who may self-administer;
- Emergency administration of a bronchodilator based on the severity of the symptoms being experienced by a student;
- Follow-up including parent/guardian notification and healthcare provider notification (if appropriate);
- Documentation and reporting of stock bronchodilator administration;
- Cleaning metered dose inhalers and reusable spacers;
- Proper storage of stock bronchodilators and related equipment; and
- Reordering/restocking of stock bronchodilators and spacers as needed.

Training should occur at least on an annual basis. It is recommended that a minimum of two (2) individuals per school receive training to administer a stock bronchodilator at school.

Further, public schools and those nonpublic schools that establish a policy authorizing administration of stock bronchodilators should require one of the individuals trained as outlined above to present, every year, to all school personnel who have direct contact and supervision of students, an abridged version of the training that includes recognizing the signs and symptoms of respiratory distress and procedures for notifying the school personnel trained in administering a stock bronchodilator.

Information and links to additional training may be found in Section IV: Resources.

OBTAINING STOCK BRONCHODILATORS FOR SCHOOL USE

A county board is authorized to obtain a standing order for the administration of stock bronchodilators to students in accordance with the procedures outlined in this guidance document. LEAs and nonpublic schools should consult with their medical director, if applicable, or their local health department in regard to obtaining a standing order. The standing order should be renewed annually. A sample standing order can be found in Appendix A.

Each LEA and nonpublic school is responsible for obtaining stock bronchodilators and associated supplies on an annual basis. The recommended device is a metered-dose inhaler with either a plastic one-way valve or cardboard spacer. An LEA may choose to include nebulized albuterol, but this is not required.

Bronchodilators and modes of administration, including inhalers with spacers, must be from a licensed pharmacy or manufacturer. LEAs may accept donated bronchodilators and modes of administration, including inhalers with spacers, from a licensed pharmacy or manufacturer and may apply for grants to obtain funding for the purchase of bronchodilators and modes of administration.

STORAGE, MAINTENANCE, AND DISPOSAL OF STOCK BRONCHODILATORS

A school nurse or other designated school personnel who has completed the required training should be responsible for the storage, maintenance, control, and administration of the stock bronchodilator metered dose inhalers and spacers acquired by the school.

Storage

Bronchodilators and modes of delivery, including inhalers with spacers, must be stored in public schools to be used in an emergency situation. Nonpublic schools that establish a policy authorizing administration of stock bronchodilators are also required to store bronchodilators and modes of delivery, including inhalers with spacers, to be used in an emergency situation.

Stock bronchodilator medication should be stored according to the manufacturer's recommendations. To allow for rapid retrieval and use, the metered dose inhaler with spacer should be stored in a secure and accessible location (e.g., alongside an AED) with medication clearly marked and monitored under the direct supervision of the designated and trained personnel.

Maintenance

It is important to monitor the expiration date of the medication and number of doses left in the metered dose inhaler device. Schools may choose to develop a daily tracking log for use of the stock bronchodilator.

Develop a procedure for obtaining additional medication and supplies, as needed.

Disposal

Expired or empty stock bronchodilator metered dose inhalers should be disposed of per local policies/procedures.

ADMINISTRATION OF STOCK BRONCHODILATORS IN THE SCHOOL SETTING

Under Md. Code Ann., Educ. § 7-426.6, public school nurses and other designated personnel who have undergone the training described above are authorized to administer a stock bronchodilator to a student who is, or is perceived to be experiencing asthma-related symptoms or is perceived to be in respiratory distress, regardless of whether the student:

- Has been diagnosed with asthma or reactive airway disease; or
- Has been prescribed a bronchodilator by an authorized licensed healthcare practitioner.

Under Md. Code Ann., Educ. § 7-426.7, nonpublic schools may establish a policy to authorize school nurses and other designated school personnel to administer a stock bronchodilator to a student in the same circumstances.

Note: 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 reactive airway disease and has a prescription (i.e. medication order) for a bronchodilator by a licensed healthcare practitioner.

Policies and procedures for the emergency treatment of respiratory distress using a stock bronchodilator are not intended to replace a student's Asthma Action Plan. Instead, they should be used when an Asthma Action Plan and/or prescribed short-acting bronchodilator metered dose inhaler is not available or easily accessible.

Emergency administration of a stock bronchodilator to a student who is, or is perceived to be experiencing asthma-related symptoms or respiratory distress is appropriate in the following situations:

- The student has a current Asthma Action Plan but does not have an unexpired prescribed short-acting bronchodilator readily available.
    - In this case, use the Asthma Action Plan provided by the healthcare provider for the student and the school's supply of a stock bronchodilator with a spacer.
- The student has no Asthma Action Plan or prescription for a bronchodilator (student with known asthma or unknown history).
    - In this case, use the school's standing order and the school's supply of a stock bronchodilator with a spacer.

PROCEDURES FOR RECOGNIZING THE NEED TO ADMINISTER A BRONCHODILATOR

Symptoms of Respiratory Distress

Respiratory distress due to asthma (and other causes) can be the sudden appearance of signs and symptoms of difficulty breathing and may be categorized into "Mild to Moderate" or "Severe." Evaluation of the student's level of distress is based on the signs and symptoms present. Trained school personnel should begin the plan of care based on the symptoms the student is experiencing.

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

PROCEDURES FOR THE EMERGENCY ADMINISTRATION OF A STOCK BRONCHODILATOR

Public and nonpublic schools should use the following protocols for responding to mild to moderate and severe respiratory distress symptoms.

Medical Response to Mild to Moderate Respiratory Distress Symptoms

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.

Note: If there is reason to believe that the student is experiencing anaphylaxis (e.g., respiratory distress and specific symptoms in other body systems, with or without a history of severe allergy/anaphylaxis), follow guidelines for administration of epinephrine and management of anaphylaxis.

Refer to the MDH/MSDE algorithm (Appendix C) for Mild to Moderate Respiratory Distress **to determine next steps in the intervention process as indicated below**:

- 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.
- **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 fifteen to twenty 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 SYMPTOMS

The student may present with or progress to symptoms of 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.

> **Note**: If there is reason to believe that the student is experiencing anaphylaxis (e.g., respiratory distress and specific symptoms in other body systems, with or without a history of severe allergy/anaphylaxis), follow guidelines for administration of epinephrine and management of anaphylaxis.

Refer to the MDH/MSDE algorithm (Appendix D) for Severe Respiratory Distress **to determine next steps in the intervention process listed below**:

- **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.

- 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.

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

Some students with asthma may also have a history of allergies and anaphylaxis. In addition, students with an unknown medical history who have respiratory distress in school could be experiencing anaphylaxis, particularly if certain symptoms in other body systems are present.

School nurses and designated school personnel are required to have training to distinguish between anaphylaxis and asthma or respiratory distress. **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 <u>both</u> 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*.

Note: Under Md. Code Ann., Educ. § 7-426.6 and § 7-426.7, except for any willful or grossly negligent act, a school nurse or any other school personnel who respond in good faith to the asthma attack or respiratory distress of a student in accordance with the statutes and any healthcare provider that prescribes or dispenses a bronchodilator used to treat a student in accordance with the statutes may not be held personally liable for any act or omission that occurs in the course of responding to the student in distress.

POST ADMINISTRATION OF BRONCHODILATOR PROCEDURES

Parent/Guardian Notification and Student Disposition

Md. Code Ann., Educ. § 7-426.6 requires parent/guardian notification when a stock bronchodilator is administered to a student.

- Students with mild to moderate symptoms of respiratory distress and known asthma:

- After stock bronchodilator administration (4 puffs), if the student's breathing has returned 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.
    - Students requiring a stock bronchodilator more than once during a school day should not remain in school.
- Instruct the parent/guardian to have their child follow-up with a healthcare provider for additional medical care.
- Local school policy may require an updated Asthma Action Plan, prescription medication for use during the school day, and/or a medical clearance letter to return to school or activities.

- Students with severe respiratory distress OR any student without a known asthma diagnosis with any symptoms of respiratory distress administered a stock bronchodilator:
    - These students should not remain in school.
    - The school nurse should be notified by the trained school personnel that administered the stock bronchodilator.
    - Instruct the parent/guardian to have their child follow-up with a healthcare provider for additional medical care.
    - A medical clearance letter should be obtained in order to return to school.
    - Local school policy may also require an updated Asthma Action Plan and/or prescription medication for use during the school day prior to return to school or activities.
- School health staff should follow-up with families and assist with any additional support services needed to effectively manage the student in the school setting.

Reporting Requirements

- 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.

Procedure for Cleaning Devices Used to Administer the Bronchodilator

General cleaning principles apply to all inhalers and plastic spacers in order to keep them in good working order. If not cleaned properly, equipment such as an inhaler, spacer, mask, or mouthpiece can harbor bacteria or viruses and lead to increased risk of transmission for users.

Clean all equipment after use following the manufacturer recommendations.

Allow the inhaler and plastic spacer to completely dry before reuse or restocking of the inhaler.

Section III: Glossary

For the purpose of these guidelines, the following terms have the meanings as indicated.

Asthma: A chronic lung disease that inflames and narrows air passages, causing recurring periods of wheezing, chest tightness, shortness of breath, and coughing.

Asthma Action Plan: An individualized plan initiated by a licensed healthcare provider, which includes routine and emergency medication and protocols.

Bronchodilator: Medication that relaxes bronchial muscles, resulting in the expansion of bronchial air passages to provide fast treatment of asthma-related symptoms and symptoms of respiratory distress. In this guideline, "bronchodilator" refers to albuterol or albuterol sulfate, orally inhaled medication that may be delivered via metered dose inhaler (MDI) or nebulizer.

Inhaler: A device that delivers bronchodilator medication to alleviate symptoms of respiratory distress that is manufactured in the form of a metered-dose inhaler or dry-powder inhaler that includes a plastic tube with a face mask or mouthpiece (also called a spacer or valved-holding chamber) that the inhaler is inserted into facilitating the delivery of the bronchodilator medication to the airways.

Metered Dose Inhaler (MDI): Inhaled respiratory medications are often taken using a device called a metered dose inhaler, or MDI. The MDI is a pressurized canister of medicine in a plastic holder with a mouthpiece. When sprayed, it gives a reliable, consistent dose of medication.

Nebulizer: A device used to produce a fine spray of liquid or mist for inhalation of a medication.

Respiratory Distress: Respiratory distress describes a person's inability to breathe adequately and associated symptoms such as coughing, wheezing, and/or shortness of breath.

School Personnel: Individuals who are employed by a public school, or, in the case of some school health staff, by a local health department. School personnel includes part-time employees, teachers, substitute teachers employed by the school for at least seven (7) days each school year, registered case managers, delegating nurses, and administrative staff.

Spacer: A device to assist with effective inhalation of a bronchodilator administered via metered dose inhaler (MDI), placed on the mouthpiece of the MDI.

Standing Order: Standing orders are written protocols that authorize designated persons to provide certain clinical interventions without a patient-specific order. Standing orders are issued by an authorized prescriber.

Stock Bronchodilator: A bronchodilator that is kept on hand in a school to be used in the event of an emergency when a student is, or is perceived to be, experiencing asthma-related symptoms or respiratory distress and the student does not have a bronchodilator of their own readily available.

SECTION IV: RESOURCES, REFERENCES, AND APPENDICES

RESOURCES

American Academy of Asthma Allergy & Immunology - SAMPRO Stock Inhaler Toolkit
https://www.aaaai.org/Aaaai/media/Media-Library-PDFs/Tools%20for%20the%20Public/School%20Tools/Stock-Inhaler-Toolkit-for-Schools.pdf

This toolkit provides information and resources to assist with establishing and sustaining school-based stock bronchodilator programs including training materials and templates.

American Lung Association. Stock Asthma Medication: Implementation Guidance for Schools Toolkit
https://www.lung.org/getmedia/5419813e-2853-4e62-ab7f-bbdecdee33f7/Stock-Asthma-Medication-Toolkit.pdf

The toolkit includes templates and forms that can be modified for use while implementing an emergency stock asthma medication program in school.

American Lung Association. Stock Asthma Medication: Implementation Guidance for Schools. *Asthma Basics*.
https://lung.training/courses/asthma_basics.html

This free one-hour course teaches participants how to recognize and manage triggers, understand the value of an asthma action plan, and recognize and respond to a breathing emergency. It also includes comprehensive resources, including asthma medication devices and demonstration videos and downloads.

American Lung Association. Stock Asthma Medication: Implementation Guidance for Schools. *Responding to Asthma Emergencies in Schools*.
https://lung.training/courses/responding-asthma-emergencies-schools.html

This free one-hour course discusses asthma emergencies, how to recognize the signs and symptoms of respiratory distress at each level, and how to respond to a student experiencing respiratory distress.

Minnesota Department of Health. *Athletes and Asthma: The Community Coach's Role*.
https://www.health.state.mn.us/diseases/asthma/communities/training.html

This free 35-minute course helps community coaches learn how to help players of all ages (K-12) who have asthma, play to their full potential through scenarios that mimic the real-life decisions they might face during practices and competitive events. Resources are specifically designed for Minnesota but could be adapted to Maryland.

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APPENDIX A: SAMPLE STANDING ORDER FOR STOCK BRONCHODILATOR

Date Issued: (Date). Order must be renewed annually at the beginning of each school year.

In accordance with Md. Code Ann., Educ. § 7-426.6 and § 7-426.7 and the policy developed by the Maryland Department of Health and the Maryland State Department of Education, this order authorizes school nurses and designated school personnel who have completed the required training to possess and administer stock bronchodilators with spacers to:

- Any student in kindergarten through 12th grade who is, or is perceived to be experiencing asthma-related symptoms or respiratory distress; and
- Any student in prekindergarten who is, or is perceived to be experiencing asthma-related symptoms or respiratory distress only if the student has a diagnosis of asthma or reactive airway disease and a prescription for a bronchodilator.

Administration of Albuterol (Inhalation Route)

The school nurse or designated trained school personnel will identify the symptoms of respiratory distress in a student as outlined in the policy and procedures and respond according to the attached **Response to Mild to Moderate or Severe Respiratory Distress MDH/MSDE Algorithm.**

The school should maintain a copy of the standing order, list of personnel trained, and applicable policy and procedures.

Prescriber Name:

Prescriber Signature:

APPENDIX B: SAMPLE NOTIFICATION LETTER TO PARENT/GUARDIAN

Date:

School Name:

Address:

Dear Parents/Guardians,

We are writing to inform you about a new school health program that will make schools safer for students. Effective, July 2024, Maryland passed a law, Md. Code Ann., Educ. § 7-426.6 and § 7-426.7, that allows your child's school to stock, maintain, and administer an albuterol inhaler to treat students who experience respiratory distress or a breathing emergency while at school. Albuterol is an inhaled medication that quickly opens the tubes that move air into and out of the lungs making it easier to breathe. This medication is safe and effective. An asthma attack can happen at any time, and quick access to albuterol is vital for schools to be safe and prepared.

School personnel from your child's school will be trained to respond to respiratory emergencies quickly and safely. While school staff will make every effort to contact parents before giving albuterol, the law allows them to administer albuterol stocked by the school in an emergency without prior parental contact.

If your child has asthma, we urge you to notify your child's school and provide them with an asthma action plan from your child's doctor. Because the stock albuterol inhaler is not intended to replace a child's personal inhaler, we encourage you to send a personal albuterol inhaler for use at school if your child has asthma. If you have any questions or concerns, please contact your school's health office.

Sincerely,

APPENDIX C: MILD TO MODERATE RESPIRATORY DISTRESS SYMPTOMS ALGORITHM

Please see the following page for the Mild to Moderate Respiratory Distress Symptoms Algorithm.

Mild/Moderate Respiratory Distress

Algorithm for Stock Bronchodilator Use in K-12 Students

Maryland | DEPARTMENT OF HEALTH
STATE DEPARTMENT OF EDUCATION

Use this algorithm if a student does not have an asthma action plan by their health care provider and appears to be having mild to moderate respiratory distress.

Mild/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

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

Call For Help If Needed:

↓

Administer 4 puffs of albuterol MDI with a spacer, each 30-60 seconds between puffs.

↓

No Improvement in 15-20 minutes

↓

Repeat four puffs of albuterol MDI with a spacer, each 30-60 seconds between puffs.

↓

No Improvement

↓

Call EMS/9-1-1

Follow the actions for Severe Respiratory Distress

Improvement

↓

If 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.

↓

Instruct the parent/guardian to have their child follow-up with a healthcare provider.

Adapted with permission from the Virginia Department of Health

APPENDIX D: SEVERE RESPIRATORY DISTRESS SYMPTOMS ALGORITHM

Please see the following page for the Severe Respiratory Distress Symptoms Algorithm.

Severe Respiratory Distress

Algorithm for Stock Bronchodilator Use in K-12 Students

Maryland | DEPARTMENT OF HEALTH
STATE DEPARTMENT OF EDUCATION

Use this algorithm if a student does not have an asthma action plan by their health care provider and appears to be having severe respiratory distress.

Severe Respiratory Distress Symptoms 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

The student may present with or progress to symptoms of severe respiratory distress. **Act quickly as it is safer to give albuterol than to delay treatment.**

Call EMS/9-1-1

↓

Administer 8 puffs of albuterol MDI with a spacer, each 30-60 seconds apart between puffs.

No improvement → **Student is responsive** → Repeat 8 puffs of albuterol MDI with a spacer, each 30-60 seconds apart between puffs every 15-20 minutes until EMS/9-1-1 arrives. Continue to monitor student until EMS/9-1-1 arrives.

Improvement → Continue to monitor the student until EMS/9-1-1 arrives.

Student becomes unresponsive

No improvement and 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.

Adapted with permission from the Virginia Department of Health