

MDI 101

FOR SCHOOL NURSES



- ◆ The metered-dose-inhaler, or MDI medication that is used in the school setting is a short-acting bronchodilator. Below are some of the ones currently used.
- ◆ These are the medications which a student with signed permission from a healthcare provider would be allowed to carry in school.
- ◆ The indications for use of these medications are:
 1. To relieve symptoms of bronchospasm. This could present as cough, wheezing, shortness-of-breath, or a feeling of tightness in the chest or throat.
 2. To prevent exercise-induced bronchospasm. If ordered by the child's healthcare provider on the Asthma Treatment Plan, the bronchodilator should be given 15 to 30 minutes before exercise.
- ◆ All of the MDI devices require priming according to the manufacturer's instructions in order for the proper dose of medication to be delivered. **Priming must be performed before using the inhaler for the first time.** Here is a quick reference chart for when to re-prime the bronchodilator MDIs.

Drug Name Active Ingredient	FDA-Approved Age Range	# Sprays To Prime	Prime if NOT used within the last:	Comments
ProAir HFA Albuterol sulfate	4 yrs and older	3	14 Days	• Store between 59° and 77°F
Proventil HFA Albuterol sulfate	4 yrs and older	4	14 Days	• Store between 59° and 77°F
Ventolin HFA Albuterol sulfate	4 yrs and older	4	14 Days, or if dropped	• Has built-in dose counter • Store between 59° and 77°F
Xopenex HFA Levalbuterol tartrate	4 yrs and older	4	3 Days	• Store between 68° and 77°F
Maxair Autohaler Pirbuterol acetate	12 yrs and older	2	2 Days	• Never used with a spacer • Use test-fire slide to release priming sprays • Keep lever down • Store between 59° and 86°F
Combivent Ipratropium and Albuterol		3	24 Hours	• Discard after 200 sprays, even if canister not empty • Store between 59° and 86°

Consult the child's Asthma Treatment Plan to know when to administer these medications.



As a general rule-of-thumb, if a child needs to take a short-acting bronchodilator more than two times in one week for relief of symptoms, their asthma may be out of control.
The child should be reevaluated by their healthcare provider.

MORE KEY FACTS ABOUT MDIs

- ◆ All MDIs must be stored at normal room temperature. Failure to use the products within the specified temperature range may result in improper dosage of medication being delivered.
- ◆ Never use the canister from one medication in the actuator, or plastic mouthpiece of another medication.
- ◆ Never get the metal canister which contains the medication wet.
- ◆ Build-up of medication around the tiny spray hole in the plastic actuator can prevent the proper dose of medication from being administered. All manufacturers recommend cleaning the plastic actuator at least once a week.
- ◆ The action of these medications should last for 4 to 6 hours. Follow the Asthma Treatment Plan and do not exceed the recommended doses.
- ◆ Possible side-effects include: shakiness, nervousness, heart palpitations, chest pain , worsening of wheezing, throat irritation, changes in blood pressure, vertigo, cough, and musculoskeletal pain.
- ◆ If the MDI does not have a dose counter, ask the parent for a new inhaler so you can keep track of the number of doses which have been used. Don't forget to count the priming doses, too. Replace the MDI after the labeled number of actuations have been used.
- ◆ When you receive the MDI from parent, check the expiration date on the canister.

BASIC STEPS FOR TAKING A MDI

1. Remove the cap from the inhaler and inspect the mouthpiece for any foreign objects.
2. Make sure that the metal medication canister is properly seated in the plastic actuator.
3. Prime the inhaler if necessary.
4. If a spacer is to be used, remove the cap from the spacer and inspect for foreign objects or damage to the spacer. Insert the MDI into the spacer.
5. Always hold the MDI upright (see picture) with the metal canister at the top.
6. Shake the MDI well before each spray.
7. Breathe out fully away from the inhaler.
8. Put the inhaler or spacer into your mouth and spray only one puff as you start a long, slow inhalation.
9. Hold your breath as long as possible, up to 10 seconds, before exhaling.
10. Wait at least one minute between puffs.



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