

Inhaler with a Spacer or Valved-holding Chamber

Things to consider:

- Attempt to provide the student with as much privacy as possible, given the urgency of the situation

Needed supplies:

- Inhaler
- Spacer
- Student's Individualized Health Plan/Asthma Action Plan and/or healthcare provider's order

Procedure:

1. Gather needed supplies and place on clean surface
2. Position student providing for as much privacy as possible
3. Wash hands
4. If student will be administering medication, have student wash hands
5. Check for authorization forms/record
 - a. Medication Administration Form
 - b. Medical provider
 - c. Parent/guardian
6. Check for the Five Rights
 - a. Right student
 - b. Correct time
 - c. The medicine container matches authorization forms and medication administration record
 - d. The dose on medication container matches authorization form and records
 - e. The medication is in the correct route as identified on medication container, authorization forms and medication record
7. Ensure that the medication has not expired
8. Make sure the inhaler and spacer are free of foreign objects
9. Shake the inhaler for up about 10 seconds to mix the medicine
10. Remove the cap from the mouthpiece
11. Prime the inhaler if indicated
 - a. When the MDI is brand new or has not been used for a while, the medication may separate from the other ingredients in the canister and the metering chamber. Shaking the MDI will mix the ingredients in the drug reservoir but may not produce enough turbulence to re-blend the ingredients in the metering chamber. Priming, or releasing one or more sprays into the air, ensures your next dose will contain the labeled amount of medication
12. Place the inhaler mouthpiece onto the end of the spacer

13. Hold the inhaler between your index finger and thumb
14. Have the student stand up and take a deep breath in, and breathe out
15. Have the student put the end of the spacer into their mouth, between their teeth and above their tongue
16. Have the student close their lips around the spacer
17. Press down on the top of the inhaler once
18. Instruct the student to breathe in very slowly until they have taken a full breath
19. If you hear a whistle sound instruct the student to breathe slower—the breath in should take at least 3-5 seconds
20. Instruct the student to hold their breath for 5 to 10 seconds
21. Instruct the student to breathe out slowly through their mouth
22. Repeat steps 15 through 20 if taking a second puff
23. Have student rinse out their mouth with water and spit
24. Wash hands
25. Document medication administration in student's medication administration log
26. Follow up, as needed, with parents/guardian and healthcare provider

Cleaning the spacer:

1. Clean the spacer every one to two weeks, or more frequently if needed.
2. Remove the mouthpiece and the rubber piece that holds the inhaler
3. Soak the mouthpiece, rubber piece and plastic chamber in a warm water and small amount of dish soap
4. Rinse with clean water
5. Shake off excess water and dry on clean surface in a vertical position, with the mouthpiece side up
6. Do not dry with a cloth or paper towel
7. Once dry, store in clean container or bag

Cleaning the inhaler:

1. Remove the canister from the actuator
2. Run warm water through the top and bottom of plastic actuator (do not boil or place the actuator in the dishwasher)
3. Shake off the excess water
4. Allow the actuator to air dry on a clean surface prior to putting canister back in

Resources:

AeroChamber Plus® Flow-Vu® Anti-Static Valved Holding Chamber: Instructions for Use
<http://www.aerochambervhc.com/instructions-for-use.aspx>

American School Health Association: [Asthma Resource Portal](#)

Asthma and Allergy Foundation of America: [Success of the Asthma Management and Education Online Program](#)

Asthma and Allergy Foundation of America: [Validated Programs for Children, Parents and Caregivers](#)

Children's Hospital: University of Missouri Health Care
[School Nurse Online Module](#)

Merck Childhood Asthma Network and The National Association of School Nurses: [The Evolving Role of the School Nurse in Treating and Managing Childhood Asthma – At School and Home](#)

National Heart, Lung and Blood Institute: [Asthma Basics for Schools](#)

National Heart, Lung and Blood Institute: [Management of Asthma Exacerbations: School Treatment Steps to Follow for an Asthma Episode in the School Setting When a Nurse is Not Available](#)

National Heart, Lung and Blood Institute: [Management of Asthma Exacerbations: School Treatment Suggested Emergency Nursing Protocol for Students with Asthma Who Don't Have a Personal Asthma Action Plan](#)

National Heart, Lung and Blood Institute: [Asthma Action Plan](#)

Optichamber

http://www.healthcare.philips.com/main/homehealth/respiratory_drug_delivery/optihalerdeliverysystem/default.wpd

Reference:

Allergy and Asthma Network. Mothers of Asthmatics. (2009). *Maximize the Mist – Keep Inhalers Clean, Primed and Ready*. Available at: <http://www.aanma.org/2009/02/maximize-the-mist-keep-inhalers-clean-primed-and-ready/>

American Lung Association. *How to Use a Metered-Dose Inhaler*. Available at: <http://www.lung.org/assets/video/colorbox/pdfs/metered-dose-inhaler-spacer.pdf>

Connecticut State Department of Education. *Clinical Procedure Guidelines for Connecticut School Nurses*. Available at: http://www.sde.ct.gov/sde/lib/sde/pdf/publications/clinical_guidelines/clinical_guidelines.pdf

Corjulo, M. (2011). Mastering the metered-dose inhaler: an essential step toward improving asthma control in school. *NASN School Nurse*, 26, 285.

Acknowledgement of Reviewers:

Rachel Gallagher, RN, MSN, CPNP, NCSN
Director of Health Services
Milwaukee Public Schools

Jill Krueger, RN, BSN
Director/Health Officer
Forest County Health Department