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| **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

**Instructions for inhaler administration with spacer:** 1. Gather needed supplies and place on a clean surface
2. Position student, providing as much privacy as possible
3. Wash hands
4. If student will be administering medication, have student wash hands
5. Check for authorization forms or record. Review the medication administration form, the medical provider form, and the parent/guardian consent form.
6. Check for the albuterol and order to be sure it is”
	1. For the right child
	2. The right medication
	3. The right dose
	4. Being given at the correct time
	5. Being given by the right route
7. Be sure to check the medication to ensure that it has not expired
8. Make sure the inhaler and spacer are free of foreign objects
9. Shake the inhaler for 10 seconds to mix the medicine
10. Remove the cap from the mouthpiece
11. Prime the inhaler if indicated
	1. 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. Quickly review the five rights once again while checking the albuterol to be sure it is:
	1. For the right child
	2. The right medication
	3. The right dose
	4. Being given at the right time
	5. Being given by the right route
13. Place the inhaler mouthpiece onto the end of the spacer
14. Hold the inhaler between your index finger and thumb
15. Have the student stand up and take a deep breath in, and breathe out
16. Have the student place the spacer between their teeth and place their lips around it (follow the individual spacer instructions)
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 to 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. Wait 1 minute before having the student take a second puff, if ordered
23. Repeat earlier steps if taking a second puff
24. Have student rinse out their mouth with water and spit, as needed
25. Wash hands
26. Document medication administration in student’s medication administration log
27. Follow up, as needed, with parents or guardian and healthcare provider

**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

**Procedure for Cleaning the Spacer**1. It is recommended to clean the spacer every 1 to 2 weeks, or more often if needed.
2. Remove the mouthpiece and the rubber piece that holds the inhaler
3. Soak the mouthpiece, rubber piece and plastic chamber in warm water and a small amount of dish soap
4. Rinse with clean water
5. Shake off excess water and dry on a 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 a clean container or bag

**References:** American Lung Association. (2019). *How to use your inhaler and spacer.* Available at: <https://www.lung.org/getmedia/1a58adde-c10a-4925-bd89-cd5c61767897/how-to-use-your-inhaler-and.pdf.pdf>. Accessed April 14, 2020.American Lung Association. (2019). *How to use a metered-dose inhaler.* Available at: <https://www.lung.org/getmedia/958e9666-07f9-4c28-a439-223e143f0ecf/how-to-use-a-metered-dose.pdf.pdf>. Accessed April 14, 2020.American Lung Association. (2020). *How to use a metered dose inhaler* [video]. Available at: <https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma/patient-resources-and-videos/videos/how-to-use-a-metered-dose-inhaler>American Lung Association. (2020). *How to use a metered-dose inhaler with a spacer or valved holding chamber [video].* Available at: <https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma/patient-resources-and-videos/videos/how-to-use-a-metered-dose-inhaler>. Retrieved April 14, 2020.Butler, S.M., Boucher, E.A., Tobison, J., & Phan, H. (2020). Medication use in schools: Current trends, challenges, and best practices. *J Pediatr Pharmacol Ther*., 25(1): 7–24. doi: 10.5863/1551-6776-25.1.7Center for Disease Control. (2018). Know how to use your asthma inhaler using a metered dose inhaler (inhaler in mouth). Available at: <https://www.cdc.gov/asthma/pdfs/Inhaler_in_Mouth_FactSheet.pdf>. Retrieved: April 30, 2020.Corjulo, M. (2011). Mastering the metered-dose inhaler: An essential step toward improvingasthma control in school. *NASN School Nurse*, 26, 285.Fanta, C.H. (2020). An overview of asthma management. In a R.A. Wood and B.S. Bochner (Ed.), *UpToDate*. Retrieved: April 7, 2020.National Asthma Education and Prevention Program. (2011). Management of asthma exacerbations: School treatment: Suggested emergency nursing protocol for students with asthma symptoms who don’t have a personal asthma action plan. Available at: <https://www.nhlbi.nih.gov/files/docs/resources/lung/sch-emer-actplan.pdf> Retrieved: May 1, 2020.Prescribers’ Drug Reference (PDR). 2020. Albuterol sulfate - drug summary. Available at: <https://www.pdr.net/drug-summary/Albuterol-Sulfate-Inhalation-Solution-0-083-albuterol-sulfate-1427>. Retrieved: April 15, 2020. |