Inhaler Technique Basics for Children

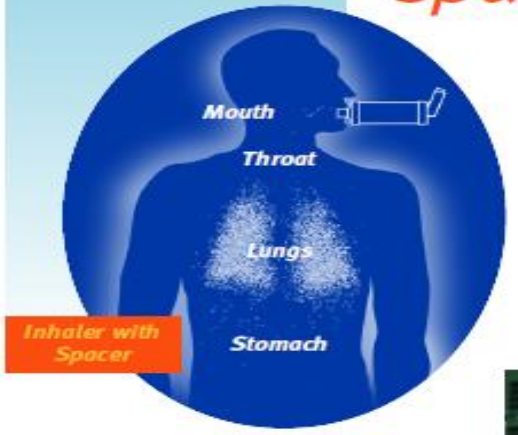
Presented by Rebecca Brown, MPA, RRT, AE-C

Why use a valved holding chamber (VHC) with all metered-dose inhalers (MDI)?

- A valved holding chamber prevents MDI medication plumes from striking the mouth at 40 miles/hour
- MDI medications taken without a valved holding chamber largely end up in the mouth and stomach
- The “valve” allows a breath to be taken in through the chamber, but prevents exhaled air from flowing back into the chamber and washing out the medication
- Most VHCs are equipped with a “whistle” or flow signal to warn users when they inhale at twice the ideal speed, the whistle means “slow down”

- When an inhaler is used alone, medicine ends up in the mouth, throat, stomach and lungs.
- Medicine left in the mouth, throat and stomach may cause unpleasant taste and side effects.

Why should I use a spacer with my inhaler?

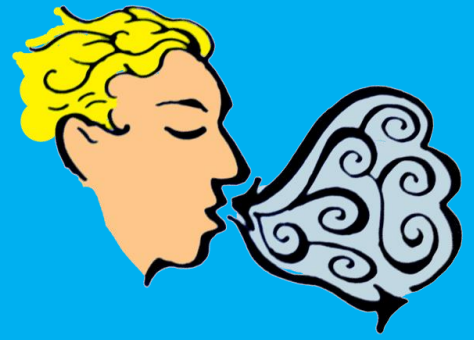


- When an inhaler is used with a spacer, more medicine is delivered to the lungs, where it works.

Spacers should be used by patients of all ages.

Keep it Simple (3 Steps)-

Old Air Out → Aim Up → Fill Up Slowly



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With ***Flow-Vu***® it is possible to see if the student is really breathing in and assess whether the breath takes several seconds and results in filling the lungs (chest rises slowly with no whistle heard)

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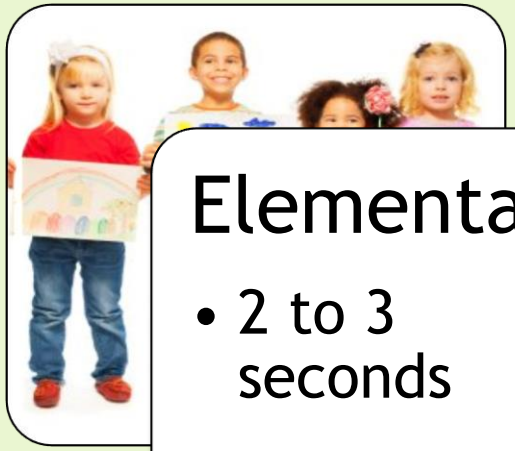
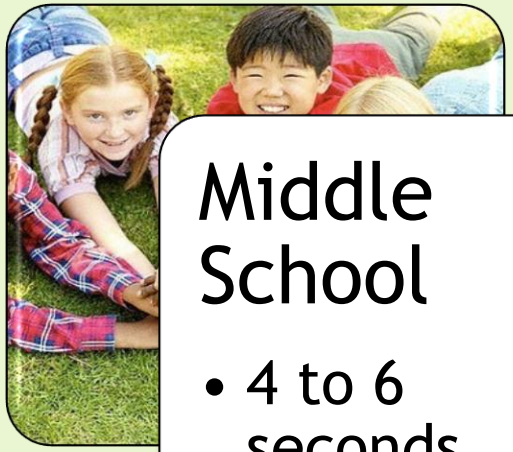
Lungs become bigger as children grow taller. As such, little lungs fill up more quickly than big lungs. Below is an average inhalation time by age-range. MDI medication should flow into everyone's lungs at the same rate (a liter of air inhaled in 2 seconds).



Elementary

- 2 to 3 seconds



Middle School

- 4 to 6 seconds

High School

- 6 to 10 seconds

Target Inhalation Time

- Target Inhalation Time is a concept based on how many seconds one should breathe in from an inhaler to have the maximum amount of medicine reach the lungs (along with good coordinated technique)
- Target Inhalation Time is important whenever inhaling medicine from an inhaler, as, if it is done too quickly or too slowly means that less medicine than is in a puff of medicine, and that is intended to reach the lungs, will actually reach them.
- Target Inhalation Time may be lower than normal when someone is having an asthma episode, and struggling to breathe because working lung volumes are reduced when obstructed.

Inhaler Technique Coaching Program

- New **quick and easy** program available to ***School Nurses*** in Missouri that encourages coaching students with asthma on inhaler technique by providing resources.
- This program, offered by Asthma Ready® Communities, provides asthma equipment to school nurses in Missouri who want to participate, at ***no cost to them or their district***.
- The equipment includes 2 AeroChambers with Flow-Vu ® Indicator (mouthpiece), and one Trainhaler. A survey guides coaching efforts.
- A Participating ***student receives complimentary*** AeroChamber Plus Flow-Vu ® Indicator (mouthpiece), and is coached on good inhaler technique, using the nurse's Trainhaler, which is approved for multi-person use. (Clean between students with antiseptic wipe. At least 70% alcohol.)

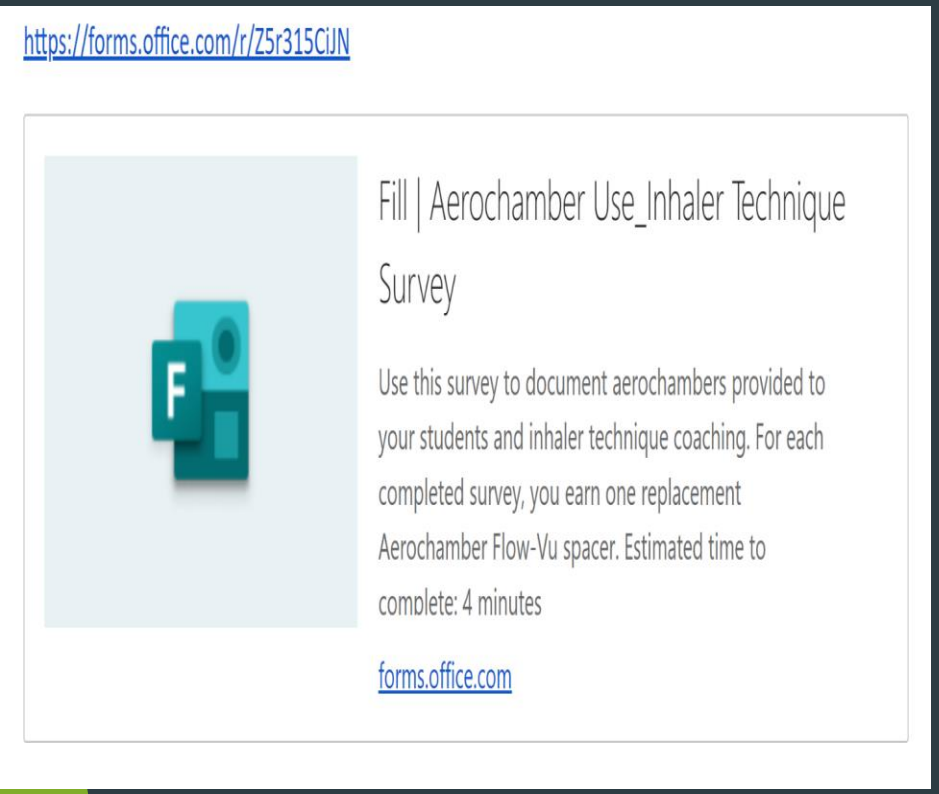
Sign Up for the Inhaler Technique Coaching Program:

- Go to this link to order start up kit: Link
  - Alternatively, you can contact Inhaler Deb Cook Debcook1609@gmail.com to get your Inhaler Technique Starter Kit.
- You will receive in the mail:
  - 1 Trainhaler
  - 2 AeroChambers with FlowVu
- Coach student using quick survey link: https://forms.office.com/r/Z5r315CiJN
  - Guides coaching efforts with brief instructions and short or yes / no responses.
  - Contains inhaler coaching video that can be used to train student
  - Once survey is submitted, at the end of the month, a replacement AeroChamber with FlowVu will be mailed to you.

Using Inhaler Technique Coaching Program:

https://forms.office.com/r/Z5r315CiJN

Complete this survey to receive a replacement Flow-Vu AeroChamber



Links for Inhaler Technique

Watch Inhaler Technique Coaching Example

- https://youtu.be/Ge3kQerMDDQ

Watch short videos about inhaler technique and why spacers are important

- https://www.youtube.com/watch?v=0tkEIRDGb4c
- https://www.youtube.com/watch?v=BbONuRXJdr0
- https://www.youtube.com/watch?v=Tvj_oKgHd2k&t=2s
- https://www.youtube.com/watch?v=SdD7dPqnwkk&t=37s
- https://www.youtube.com/watch?v=J1Je2NDlU8k

Flyers encouraging spacer use *(can be shared with students / families)*

- https://drive.google.com/file/d/1tWjfTwHr3fYEche_K5UfpZDea_aOWfGi/view?usp=sharing
- https://drive.google.com/file/d/1tVd1bB7iHZnFTCPuF6VnFZ2H8qYRdHoh/view?usp=sharing