

RESPIRATORY MEDICATIONS AND DEVICES

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CONFLICT OF INTEREST

- Brown and Hahlbohm speaker bureau Association of Asthma Educators

OBJECTIVES

- Review mechanism of action for asthma pharmacologic agents
- Describe key patient educational points for each
- Compare and contrast various aerosol delivery devices including proper technique and limitations of device
- Outline care and cleaning of devices

MECHANISMS OF ACTION

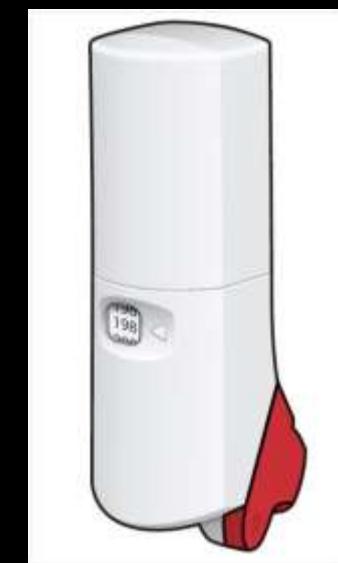
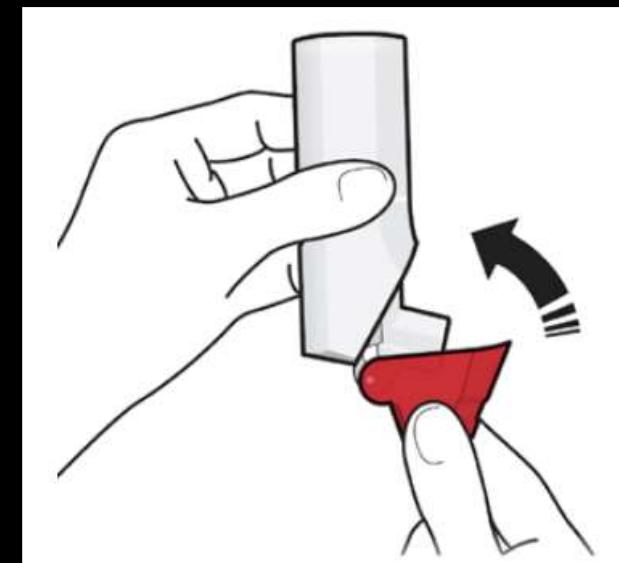
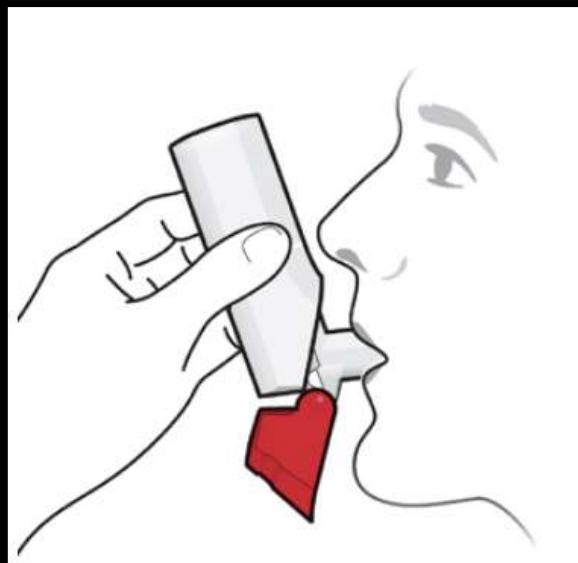
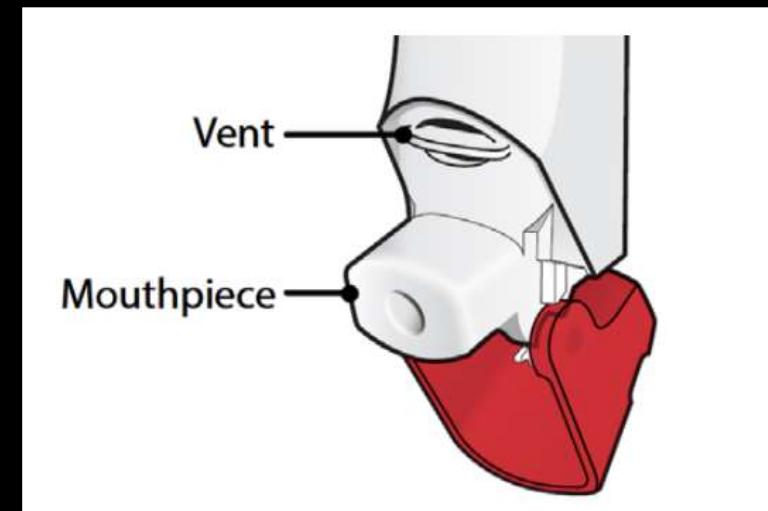
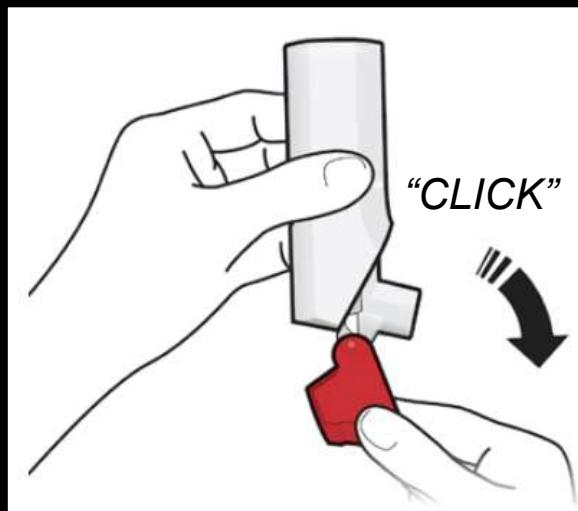
- _____ Albuterol (ProAir Respclick[®])
- _____ Fluticasone Furoate (Arnuity Ellipta[®]) A. LABA
- _____ Fluticasone Furoate/Vilanterol (Breo Ellipta[®]) B. SABA
- _____ Montelukast (Singulair[®]) C. ICS
- _____ Albuterol/ Ipatropium (DuoNeb[®]) D. LTRA
- _____ E. SAMA

ALBUTEROL (PROAIR RESPICLICK®)

- Breath actuated **dry powder** SABA
- Indicated: **> 12 years** for bronchospasm and prevention of exercise-induced bronchospasm
- In a study that investigated the **peak inspiratory flow rate (PIFR)** mean PIFR achieved by subjects was **>60 L/min** (range = 31 to 110 L/min.), indicating that patients would be able to achieve the required inspiratory flow to operate the MDPI device correctly.
- **Cleaning:** Wipe with dry cloth
- **Discard:** 13 months after removing from foil pouch



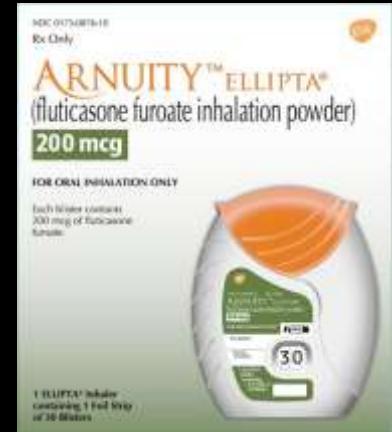
[http://www.clinicaladvisor.com/
proair-respiclick/drug/34393/](http://www.clinicaladvisor.com/proair-respiclick/drug/34393/)



http://myproair.com/pdf/Full_Prescribing_And_Patient_Information.pdf

FLUTICASONE FUROATE (ARNUITY ELLIPTA®)

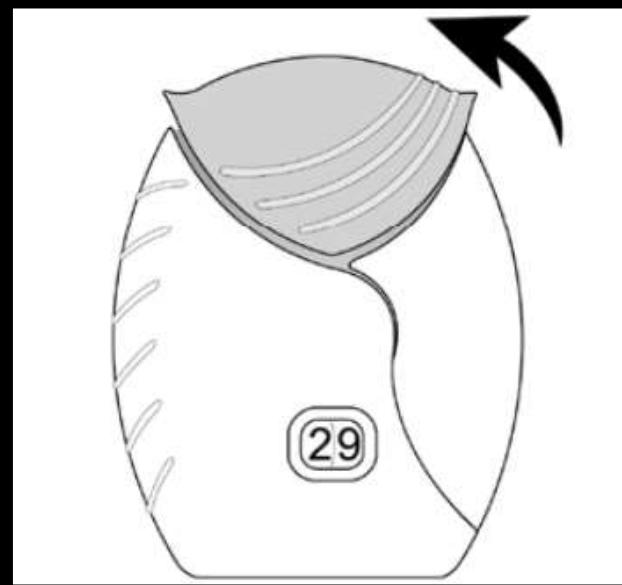
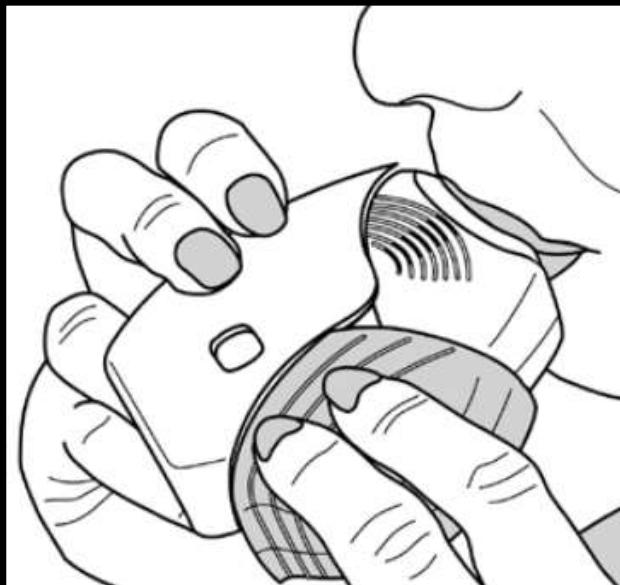
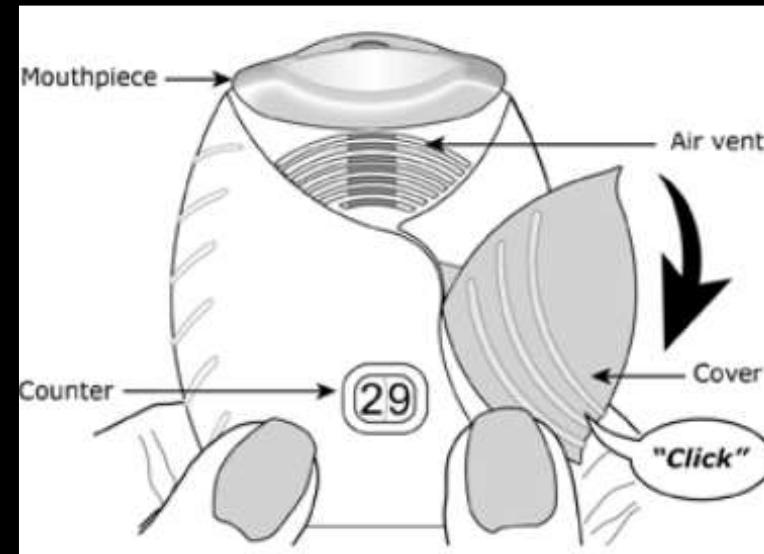
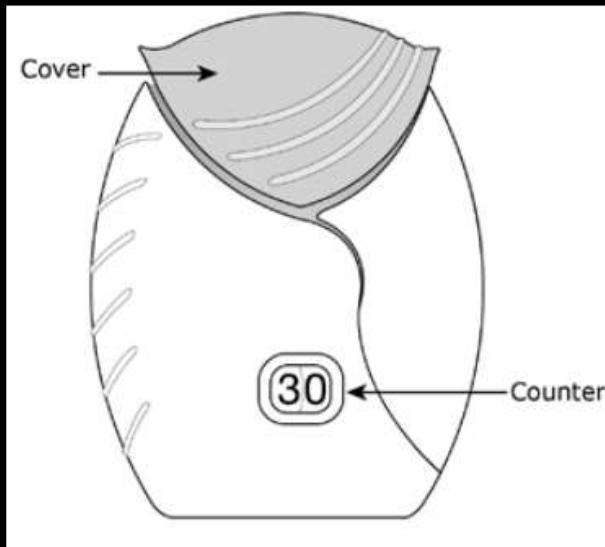
- Indication: \geq 12 years
- Dosing: 1 inhalation daily
- Delivery 90 and 182 mcg, respectively, of fluticasone furoate per blister when tested at a flow rate of 60 L/min for 4 seconds.
- Cleaning: Dry tissue if needed
- Discard: 6 weeks after removal from foil tray



FLUTICASONE FUROATE/VILANTEROL (BREO ELLIPTA®)

- Indication: **≥ 18 years** and older
- Dosing: 1 inhalation daily
- Delivery: delivers 92 and 184 mcg of fluticasone furoate and 22 mcg of vilanterol per blister when tested at a flow rate of **60 L/min for 4 seconds**.
- Cleaning: Dry tissue if needed
- Discard: **6 weeks** after removal from foil tray





WHAT ARE THE BEST TOOLS TO USE TO EDUCATE PATIENTS ABOUT MEDICATION USE?

Asthma Action Plan

For: _____ Doctor: _____ Date: _____
Doctor's Phone Number: _____ Hospital/Emergency Department Phone Number: _____

Doing Well
- No trouble breathing, chest tightness, or increase of breaths during the day or night.
- Can do usual activities.

And, if a peak flow meter is used:
Peak Flow: more than _____ (95 percent or more of my best peak flow).
My best peak flow is: _____

Other medicines: _____ ↑ _____ ↓ _____ 0.5 liters before exercise

Asthma is Getting Worse
- Cough, wheeze, chest tightness, or increase of breaths, or
- Trouble breathing, or
- Chest or neck tightness or asthma, or
- Can't do normal, usual activities.

On: _____
Peak flow: _____ (95 percent of my best peak flow).

Add quick-relief medicine—and keep taking your ORALIN 201611 medicines.
- 2.0 or 4.0 puffs, every 20 minutes for up to 1 hour
- Inhaler, once.

If your symptoms (and peak flow, if used) return to GREEN ZONE after 1 hour of above treatment:
- Continue treatments as for above until in the green zone.
- If your symptoms (and peak flow, if used) do not return to GREEN ZONE after 1 hour of above treatment:
- ↑ _____ (breath-holding, holding breath) _____ times per day. For _____ (20-100 steps).
- Rest _____ (20-100 steps).
- Call the doctor (or hospital) if you are _____ hours after taking the oral steroid.

Medical Alert!
- Very short of breath, if _____
- Very tight chest, if _____
- Can't do usual activities, or
- Symptoms are worse or get worse after 2 hours in Yellow zone.

On: _____
Peak flow: less than _____ (95 percent of my best peak flow).

DANGER SIGNS
- Trouble walking and talking due to shortness of breath
- Lips or fingernails are blue

To take: 2.0 or 4.0 puffs of your quick-relief medicine AND
Go to the hospital or call for an ambulance _____ (number) _____

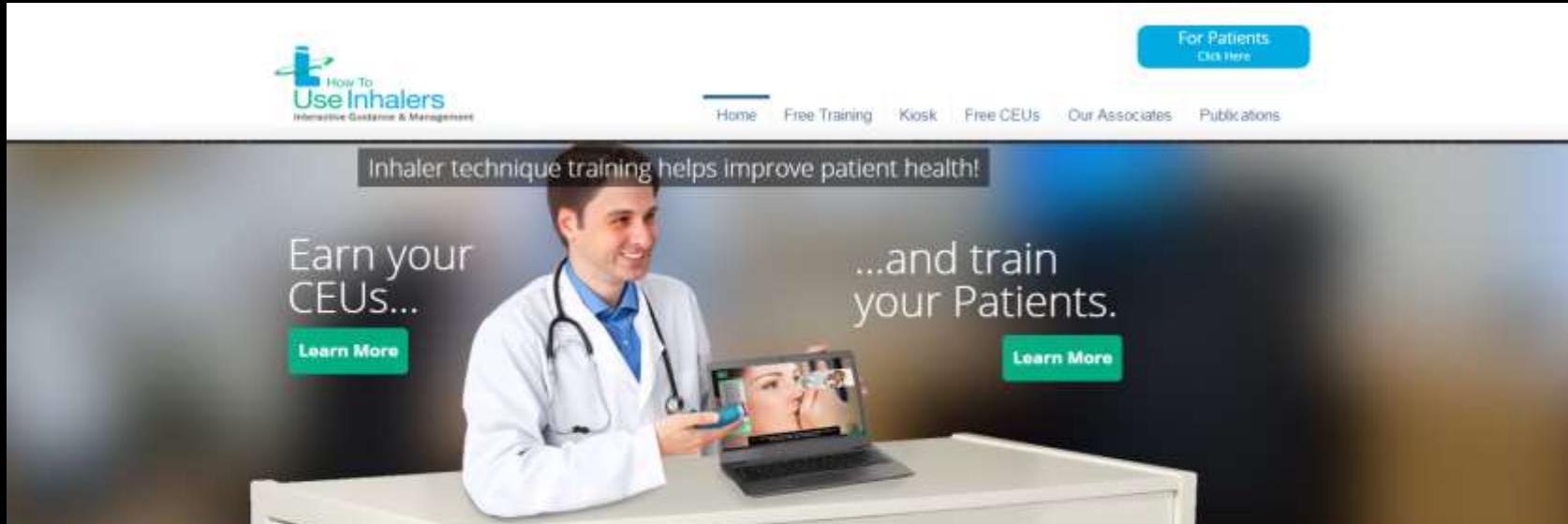


<http://www.monaghanmed.com/truzone-pfm-0>

https://www.nhlbi.nih.gov/files/docs/public/lung/asthma_actplan.pdf

DEVICE TRAINING

<http://use-inhalers.com>



The screenshot shows the homepage of the 'How To Use Inhalers' website. The top navigation bar includes links for 'Home', 'Free Training', 'Kiosk', 'Free CEUs', 'Our Associates', and 'Publications'. A 'For Patients' button with a 'Click Here' link is also present. The main banner features a doctor using a tablet to demonstrate inhaler technique, with the text 'Inhaler technique training helps improve patient health!', 'Earn your CEUs...', and '...and train your Patients.' Below the banner is a 'Free Training (1 Minute)' section where users can select a language and inhaler type.

For Patients
Click Here

Home Free Training Kiosk Free CEUs Our Associates Publications

Inhaler technique training helps improve patient health!

Earn your CEUs... [Learn More](#)

...and train your Patients. [Learn More](#)

Free Training (1 Minute)

1. Select Language: English Español Português Français Italiano Polski 中國的
العربيّة
Viet
हिन्दी
русский
kreyòl ayisyen

2. Select an Inhaler:

- MDI with Spacer
- MDI
- Diskus
- Handihaler
- Twisthaler
- Autohaler

[Home](#) > [Patients Handouts](#)

Handouts and Flyers

In this section you will find important resources like Patient Instructions and Flyers which you can download and print for Free.

For Flyers

[Click Here](#)

Patient Instruction Guides

- Printable handouts on inhaler technique
- Step-by-step instructions on correct usage
- Easy to read and understand correct technique

How to Use Twisthaler

Patient Education Guide



Learn with... An Interactive training - Engaging animations - Your web cam
Good Inhaler Technique-Inhaler medicine effect - Saves of cost of medicine - Reduces ER visits

www.use-inhalers.com

- For cleaning refer to the patient instructions that accompanies your inhaler.
- Following these step by step instructions will help you to inhale medicine effectively.



Step8: Repeat 1 to 8 steps after 30 seconds. If another dose is required. If you are using a spacer or a mask, clean your mask after all doses are complete.

TIP: Remember to rinse your mouth thoroughly after taking your dose and spit out the water.

Use-inhalers website is a great resource for Asthma and COPD patients. Learn how to use your inhaler with interactive audio-visual instructions. Practice using the innovative webcam feature.

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How to Use **MDI**



How to Use **Diskus**



ADDITIONAL DEVICES TO REVIEW

- MDI with Holding Chamber
- Twisthaler
- Flexhaler
- Etc...

PIPELINE

- Longer acting controller medications asthma/COPD overlap syndrome
- Biologics
 - Interleukin (IL-5)- Monoclonal antibodies (Mepolizumab (Nucala[®])) and Monoclonal antibody targeted at the IL-5 receptor (Benralizumab). Indicated for Severe Eosinophilic Asthma
 - Interleukin (IL-13)- Lebrikizumab

GSK Product development pipeline. March 2015.
<https://www.gsk.com/media/621672/product-pipeline-2015.pdf>

Anti-IL5 therapy for asthma and beyond. World Allergy Organization Journal. 2014;7:32.
<http://www.waojournal.org/content/7/1/32>. doi:10.1186/1939-4551-7-32



QUESTIONS