

### Asthma Management in the Age of COVID-19: What's Changed?

- ✓ Asthma medications should be continued as usual, including inhaled corticosteroids, biologics and oral corticosteroids
- ✓ Now is the time to really be sure that ALL patients with asthma have an updated asthma action plan and that it is reviewed with the patient and/or parent
- ✓ Per URMC, there is no need to routinely avoid the use of a nebulizer in favor of a metered dose inhaler. PPE with a surgical mask and face shield is sufficient when delivering nebulized therapies.
  - The World Health Organization removed nebulizing medications from the list of aerosol-generating procedures over 10 years ago due to lack of data. Nebulizers do create aerosols (of medication) to deliver medication to the lungs, but there is no data suggesting they create infectious aerosols.
- ✓ Follow strict infection control procedures if aerosol-generating procedures are needed

### Assessing a Patient with Asthma

- ✓ Use the [Asthma Control Test \(ACT\)](#) for adults and adolescents 12 years and older or the [Childhood Asthma Control Test](#) for children ages 4 to 11 to assess symptom control over the last 4 weeks
- ✓ Identify modifiable risk factors for poor outcomes
  - Poor medication adherence, poor inhaler technique, high SABA use, ICS not prescribed
  - Exposures to smoke, allergens or air pollution
  - Socioeconomic problems
- ✓ Be aware of comorbidities and independent risk factors that may contribute to respiratory symptoms and flare-ups that may complicate asthma management (e.g. GERD, obesity, OSA, depression, anxiety, history of intubation, having 1 or more severe exacerbations in the last 12 months)

### Assessing Inhaler Technique

- ✓ WATCH the patient use their inhaler! Correct errors as you see them and recheck frequently!
- ✓ At least one-half of patients who are prescribed inhalers may be using them incorrectly
- ✓ The different types of inhaler devices are likely to be equally effective in delivering medications when used correctly
- ✓ When choosing a device, be sure to consider the patient's ability to use the device properly (e.g. cognition, dexterity and strength), patient preference and cost.
  - MDIs require priming, shaking and good hand-breath coordination (although a spacer may help with this)
  - DPIs are breath-activated and may not be best for patients who cannot produce an adequate inhalation

### Dry-Powder Inhaler (DPI): Tips

- ✓ The dry powder dose can become displaced if the inhaler is not kept in a level position
- ✓ A tip to assess a patient's depth of inhalation is to put a dark, fine weave cloth between the mouthpiece and mouth. Powder will be visible on the cloth if the patient is inhaling deeply enough.
- ✓ Keep the inhaler dry. Exhale away from the inhaler and replace the cover after use. Store in a dry place.



### Inhaler Techniques & Tips

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#### Metered-Dose Inhaler (MDI)

- Step 1: Shake the inhaler well, if necessary
- Step 2: Prime the inhaler before first use or if not used for the specified amount of days, as directed
- Step 3: If using a spacer, attach the spacer and the inhaler together, with the inhaler’s canister in a vertical position
- Step 4: Breathe out fully through the mouth, away from the inhaler
- Step 5: Put the mouthpiece in the mouth and tighten the lips around it OR if using a spacer, put the mouthpiece of the spacer between the teeth and tighten the lips around it OR if using a spacer with a mask, position the mask over the nose and mouth and make sure there’s a tight seal against the cheeks and chin
- Step 6: Press the canister down while inhaling **deeply and slowly** through the mouth (if using a mask, take six normal breaths)
- Step 7: Remove the inhaler from the mouth OR if using a spacer, move the mouthpiece away from the mouth
- Step 8: Hold breath for as long as comfortability possible, generally up to ten seconds and then breathe out (does not apply to mask use)
- Step 9: Wait 30-60 seconds before repeating

#### Tips

- ✓ If patients experience difficulty with good hand-breath coordination, recommend a spacer
- ✓ Remind patients to keep their chin up and inhaler upright to ensure proper positioning

#### Soft-Mist Inhaler (Respimat)

- Step 1: Hold the inhaler upright
- Step 2: Prime the inhaler before first use or if not used for >3 days, as directed
- Step 3: Turn the base in the direction of the arrows until it clicks
- Step 4: Flip the cap until it snaps open
- Step 5: Breathe out fully through the mouth, away from the inhaler
- Step 6: Put the mouthpiece in the mouth and tighten lips around the end without covering the air vents
- Step 7: Press the dose release button and inhale **deeply and slowly** through the mouth. Hold breath as long as comfortably possible, up to ten seconds.

#### Tips

- ✓ Medication can be accidentally released if cap is opened before rotating the base
- ✓ Do not press the button multiple times for more than one puff

#### Dry-Powder Inhaler (DPI): Diskus

- Step 1: After opening the inhaler with the thumb grip, hold the inhaler flat and level, and slide the lever from left to right until it clicks
- Step 2: Breathe out fully through the mouth, away from the inhaler
- Step 3: Put the mouthpiece in the mouth and tighten lips around it
- Step 4: Inhale **quickly and deeply** through the mouth
- Step 5: Remove the device from the mouth and hold breath as long as comfortably possible, up to ten seconds

#### Dry-Powder Inhaler (DPI): RespiClick

- Step 1: Hold the inhaler upright and open the cap fully, until you hear a click
- Step 2: Breathe out completely through the mouth, away from the inhaler
- Step 3: Put the mouthpiece between the lips. Do not block the vent above the mouthpiece.
- Step 4: Inhale **quickly and deeply** through the mouth
- Step 5: Remove the device from the mouth and hold breath as long as comfortably possible, up to ten seconds

See DPI Tips on Page 1

#### Dry-Powder Inhaler (DPI): Ellipta

- Step 1: Slide the inhaler cover down to reveal the mouthpiece
- Step 2: Breathe out fully through the mouth, away from the inhaler
- Step 3: Put the mouthpiece between the lips. Do not block the air vents with fingers.
- Step 4: Inhale **deeply and slowly** through the mouth
- Step 5: Remove the device from the mouth and hold breath for 3-4 seconds or as long as comfortably possible