Evaluating and Educating Important Inhalation Behaviors (CPT 94664)

Clinical recommendation is to educate asthma patients on inhalation use at every asthma visit!

Asthma medication is useless if it doesn't reach the lungs!

Why: *Comprehensive instructions combined with repeated evaluations of proper technique have shown to dramatically increase good inhalation performance from 39% to 93%![1]*

Setting Up the Inhalation Education & Demonstration

- Introduce the inhalation instruction by simulating the patient's normal environment.
- Use the patient's medication device to help the patient visualize and demonstrate his/her inhalation technique.

Evaluating and Educating Important Inhalation Behaviors

Metered-Dose Inhalers (MDI) with Spacer Device

1. Always use a spacer with a mouthpiece for MDI medications.

   Spacer devices have been shown to increase lung deposition with correct inhalation technique. Using a spacer reduces the amount of medication deposited in the mouth, tongue, or throat.
2. Gently shake the inhaler if indicated and prime as applicable.
3. Remove the caps from the spacer and inhaler and insert the inhaler into the back of the spacer.
4. Before initiating medication inhalation, the patient exhales gently and completely to empty his/her lungs.

   This effort increases the volume of air that can be inhaled and increases the amount of aerosol medication deposited into peripheral, small airways where asthma hits hardest!
5. Patient lifts chin slightly to open airway.
6. Press once on the inhaler to puff the medication into the spacer.
7. Patient inhales using a long, slow breath.
8. Patient holds breath for 10 seconds (as able per patient comfort and capacity)

   This step is essential to allow the medication to settle in the patient's lungs.
9. Repeat steps 2 through 7 for each additional puff prescribed.
10. Patient rinses and spits after inhalation with corticosteroid to prevent a thrush infection in the mouth. If unable to spit, use a washcloth to gently clean the mouth. If using a nebulized corticosteroid, wipe the face after use.

Metered-Dose Inhalers (MDI) with Spacer and Mask

1. Use of a spacer with mask for MDI medications for infants and small children under the age of 6 to 10 (dependent on developmental level of child).

   Spacer devices have been shown to increase lung deposition with correct inhalation technique. Using a spacer reduces the amount of medication deposited in the mouth, tongue, or throat.
2. Gently shake the inhaler if indicated and prime as applicable.
3. Remove the caps from the spacer and inhaler and insert the inhaler into the back of the spacer with mask.
4. Seal the face mask over the child's nose and mouth.
5. Press once on the inhaler to puff the medication into the spacer.
6. Hold the spacer mask on the face for 30 seconds or 5-10 inhalations.
7. Repeat steps 2 through 7 for each additional puff prescribed.
8. Patient rinses and spits after inhalation with corticosteroid to prevent a thrush infection in the mouth. If unable to spit, use a washcloth to gently clean the mouth. If using a nebulized corticosteroid, wipe the face after use.

Continue to coach and review the behaviors above until the patient achieves the proper inhalation technique and reinforce this behavior at each visit.

[1] Poor inhalation technique, even after inhalation instructions, in children with asthma. Kamps AW, Van Ewijk B, Roorda RJ, Brand PL, Pediatrric Pulmonology. 2000 Jan; 29(1):39-42.

Important Inhalation Technique Considerations – Help Prevent These Common Errors!

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Metered-Dose Inhalers (MDI) with Spacer Device

A Metered-Dose Inhaler (MDI) with spacer and appropriate mask or mouth piece is the clinically recommended inhalation technique for all ages.[2]

Common Error: Using a Spacer with a Mouthpiece for a Young Child

- Infants and small children under the age of 6 to 10 (dependent on developmental level of child) will need to use a spacer with a mask to properly get the medication into the lungs.

Common Error: Fast and Short Inhalation

- Coach patient to take a slow, long inhalation.
- If spacer device makes a whistling sound, the patient is breathing too fast.

Dry Powder Inhaler (DPI)

Common Error: Prescribing a DPI for a Young Child

- DPI's require a fast inhalation up to about 60 LPM. Most children under the age of 6 to 10 (dependent on developmental level of child) do not have the inspiratory force necessary to get the medication in the lungs.
- DPI's can be complicated to use and require the patient to follow steps for proper inhalation. Most children under the age of 6 to 10 (dependent on developmental level of child) cannot follow the instructions in sequence.
- A child that can use a spacer with a mouthpiece properly may be able to use a DPI properly.

Common Error: Slow Inspiratory Flow Rate

- Coach patient to use a big, fast inhalation and hold breath for 10 seconds (per patient comfort and capacity).
- After actuation of the DPI, if the device is turned upside down or the patient blows into the device that dose of the medication is lost and will need to be repeated.

Nebulizer

A Metered-Dose Inhaler (MDI) with spacer and appropriate mask or mouth piece is the clinically recommended inhalation technique for all ages.[2]

Common Error Using a Nebulizer for Infants and Small Children: Not Using a Mask

- Without a mask, most of the intended medication will be lost.
  - Infants are often nose breathers by necessity, so using a mouthpiece or tubing in the mouth is not effective.
  - The blow-by technique is not effective.
  - Mask must be sealed on the face.

Common Error When Using Nebulizer with Mouthpiece: Breathing Through the Nose Instead of the Mouth

- A child must be actively involved in breathing in the medicine through the mouth or the intended medication will be lost.

To assess the use of a nebulizer, consider asking the parent/caregiver about the following:

1. Ability of child/family to take the time and effort required for nebulizer treatments
2. Affordability of nebulizer equipment (dependent on insurance)

If parent/caregiver expresses concern regarding the above items or the patient is not improving on nebulized corticosteroid, consider using a MDI with a spacer or spacer with a mask. This approach reduces the drug administration time from about 10 minutes to 1-2 minutes and eliminates the need for a machine. This approach may provide more flexibility, portability, and support better adherence to the inhaled medication plan.

Interesting in learning more? Check out the following articles:

- Pediatric Providers Rarely Demonstrate Proper Use of Asthma Devices (Contemporary Pediatrics, 4/8/2011)
- Common Mistakes with Asthma Devices (Contemporary Pediatrics, 5/1/2014)

[2]Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma (EPR-3); National Heart, Lung, and Blood Institute (NHLBI)