

Mosby's Nursing Video Skills

Procedure Guideline for Using a Metered-Dose Inhaler (MDI)

1. Perform hand hygiene and ensure privacy.
2. Introduce yourself to the patient and family, if present.
3. Identify the patient using two identifiers.
4. Ask if the patient if he or she has any allergies.
5. A metered dose inhaler (MDI) is a small handheld device that delivers a measured dose of medication to the airways. With each puff, a propellant in the canister disperses the drug in the form of an aerosol spray or mist.
6. Compare the label of the MDI medication with the information in the medication administration record (MAR) twice. Do a third check at the patient's bedside. Check the expiration date of the medication. Apply the Six Rights of Medication Administration. Refer to the Video Skill "Ensuring the Six rights of Medication Administration."
7. Assess the patient's respirations and breath sounds. Ask the patient about subjective symptoms such as shortness of breath.
8. Discuss the purpose and action of each medication, as well as its possible adverse effects. Allow the patient to ask questions about the drug. Explain what a metered-dose inhaler (MDI) is and how to use it. Caution not to use medication more than what the health care provider has specified. Warn the patient about potential side effects related to overuse of the inhaler.
9. Explain the steps for administering an MDI without a spacer (demonstrate for the patient).
 - A. Remove the mouthpiece cover from the inhaler after inserting the MDI canister into the holder.
 - B. Shake the inhaler well for 2 to 5 seconds (five or six shakes).
 - C. Have the patient hold the inhaler in his or her dominant hand.
 - D. Instruct the patient to position the inhaler in one of two ways:
 - (1) Place the inhaler's mouthpiece in the mouth, with the opening toward the back of the throat, closing the lips tightly around it. This technique is the best way to deliver medication without the use of a spacer device.
 - (2) Alternately, have the patient hold the mouthpiece 2 to 4 cm (1 to 2 inches) in front of his or her wide-opened mouth, with the opening of the inhaler facing the back of the throat. The patient's lips should not touch the inhaler. Have the patient take a deep breath and exhale completely.
 - (3) With the inhaler in either of the above positions, have the patient hold the inhaler with the thumb at the mouthpiece and the index finger and middle finger at the top. Instruct the patient to tilt his or her head back slightly and inhale slowly and deeply through the mouth for 3 to 5 seconds while depressing the medication canister completely.
 - (4) Have the patient hold his or her breath for about 10 seconds.
 - (5) Instruct the patient remove the MDI from the mouth before exhaling, and exhale slowly through the nose or pursed lips.

10. Explain the steps to administer an MDI using a spacer device (demonstrate for the patient).
 - A. Remove the mouthpiece cover from the MDI and from the mouthpiece of the spacer device.
 - B. Shake the inhaler well for 2 to 5 seconds (five or six shakes).
 - C. Insert the MDI into the end of a spacer device.
 - D. Instruct the patient to place the spacer device mouthpiece into his or her mouth and close the lips around it. Advise the patient not to insert the device beyond the raised lip of the mouthpiece, and to avoid covering the small exhalation slots with the lips.
 - E. Have the patient breathe normally through the mouthpiece of the spacer device.
 - F. Instruct the patient to depress the medication canister, spraying one puff into the spacer device.
 - G. Ask the patient to breathe in slowly and fully for 5 seconds.
 - H. Instruct the patient to hold this full breath for 10 seconds.
11. When using a MDI, with or without a spacer, instruct the patient to wait 20 to 30 seconds between inhalations of the same medication and 2 to 5 minutes between inhalations of different medications. When two different medications are given, a bronchodilator should be used before a steroid medication.
12. Instruct the patient not to repeat the inhalations before the next scheduled dose.
13. Inform the patient that droplets of medication on the pharynx or tongue may cause a gagging sensation. Advise the patient of the importance of rinsing with warm water and then spitting out the water about 2 minutes after each dose.
14. For daily cleaning, instruct the patient to remove the medication canister and rinse the inhaler and cap with warm running water. Tap to remove any remaining drops of water and allow to dry. Caution the patient to be sure the inhaler is completely dry before reusing it. Instruct the patient not to get the valve mechanism of the canister wet.
15. Perform hand hygiene.
16. Show the patient how to keep track of how many doses he has used by noting the first day of use on the canister and calculating the number of doses the patient uses per day.
17. For follow up care, assess the patient's respirations and breath sounds and compare with the assessment made prior to giving the medication. Include patient teaching and encourage self-administration of medication using the MDI. Observe the patient's technique and offer reinforcement as necessary.
18. Encourage the patient to report any adverse effects of the medication, such as tremors, anxiety, palpitations, and/or lightheadedness. Help the patient into a comfortable position, and place toiletries and personal items within reach. Place the call light within easy reach, and make sure the patient knows how to use it to summon assistance.
19. To ensure the patient's safety, raise the appropriate number of side rails and lower the bed to the lowest position.
20. Leave the patient's room tidy.
21. Document the medication in the MAR after administration and not before. Report the patient's response and expected or unexpected outcomes.