



Matching the device to the patient

Selecting the right aerosol delivery device is essential for optimal treatment outcomes and patient satisfaction. Consider the following factors when choosing a medication delivery device for your patient.

Patient-related factors

- 1. Capability** – Select a device that your patient will be able to use. Certain physical limitations and cognitive impairment may impede a patient's ability to use a specific medication delivery device. Difficulty with motor coordination will negatively impact the use of pressurized metered dose inhalers (MDI), whereas inspiratory muscle weakness can result in an inspiratory flow that is insufficient for dry powder inhalers (DPI). In these instances, a nebulizer, which does not require a specific breathing pattern or precise hand-breath coordination, may be a better choice. Consider ease of assembling (including number of device parts) and operating the device in patients with cognitive problems.
- 2. Preference** – Select a device that your patient will be willing to use. Patients tend to use more regularly the devices that they prefer than the devices they dislike.¹ For example, an elderly patient with arthritis may avoid using devices which are painful to use and hold.

Drug-related factors

- 1. Availability** – Select a device that delivers the medications that your patient needs. There are different ways to deliver aerosolized medications, and a specific drug can often be administered using different types of devices. If a patient cannot use an MDI or DPI, determine if the prescribed medication is also available as a nebulizer formulation.
- 2. Compatibility** – Select a device that can deliver different types of medications for your patient. As the number and variety of aerosolized medications increase over time, it is important that devices be able to deliver multiple, inhaled drugs.² Rather than having several MDIs and DPIs, a separate one for each drug, and each requiring different inhaler techniques, a single nebulizer system that is compatible with multiple medications can simplify the treatment process.³

Device-related factors

- 1. Functionality** – Select a device that matches the lifestyle of your patient. Leverage the unique features of the different medication delivery devices, including ease of use, treatment time, portability, cleaning process, and maintenance requirements, to meet the needs of your patient. A patient who is active may benefit from a portable, battery-operated nebulizer that can be used when away from home.
- 2. Performance** – When comparing the different devices, take into account the characteristics of the aerosol delivered (respirable dose, particle size).⁴ Select a device that is effective.
- 3. Cost** – Select a device that is affordable. Adherence to therapy that involves costly drugs and devices, which the patient cannot afford, is poor.^{5, 6} Address financial barriers to treatments.

Education and follow-up

Provide personalized education on the proper use of the device. Demonstrate how to assemble the device and how it delivers medications. Reassess a patient's ability to use the device correctly during every clinic visit. Remind the patient that improper techniques may result in poor drug delivery and worsen disease progression and symptom control. Consider other options if the patient continues to use the device incorrectly.

Summary

While acknowledging that each patient is unique, employing a step-by-step approach can simplify the selection of a medication delivery device that will meet the needs of every patient. Consider using the C.A.R.E. acronym, which summarizes this process.

Characteristics of the device: Understand the features and performance of the various aerosol delivery devices.⁴

Abilities of the patient: Assess a patient's and caregivers' physical and cognitive capabilities, needs, preferences and financial resources.^{6,7}

Readiness to start therapy: Educate the patient and caregivers on how to use the device properly. Allow the patient to share their concerns and questions. Encourage the patient to use the device regularly as prescribed. Provide the patient with written, clear and specific instructions.⁸

Efficacy of treatment: Review and continuously monitor adherence to therapy, clinical outcomes, patient satisfaction and medication delivery technique.^{5,6,8}

References

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