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Incorrect Inhaler Techniques: A Perpetual Challenge!

Introduction

Inhaled therapy is a mainstay in the management of asthma and COPD. Metered dose inhalers (MDIs), dry powder inhalers (DPIs), and nebulizers are the most common inhaler devices used to administer aerosolized medication in routine respiratory practice.
Optimal inhaler technique depends on correct preparation and handling of the device before inhalation and an optimal inhalation technique. Errors in inhaler technique are very common among COPD and asthma patients in daily life. Poor inhaler technique has been associated with inadequate drug delivery to the lungs and thus with poor disease control and worse disease outcomes.

Inhaler Technique And Disease Control

Research indicates that up to 90% of patients with asthma demonstrate incorrect inhaler technique[(1)]. Poor inhaler technique is associated with suboptimal disease control, disease instability, and increased hospital visits, thereby increasing health-care costs.

Common Errors In Inhaler Usage

There are many different inhalers available, each requiring a set of specific steps for correct use and patients are required to master the skills specific to their inhaler.
The most common errors found with pMDIs are failing to fire the inhaler while breathing in slowly and failing to breath hold after completion of dosing. Various studies [(2)] suggest that as many as 24-77% patients make the error of failing to fire the inhaler while breathing in and 10-68% patients do not hold their breath after inhalation. Other significant errors with pMDI, made by more than 50% patients are- failing to breathe out prior to inhalation and failing to shake the inhaler.
For the DPIs, similar variability exists, with overall failure to breathe out and away from the inhaler and failing to breath-hold being the most common errors across the different DPI devices.

Role Of Healthcare Practitioners In Addressing Errors In Inhaler Technique

Health care practitioners have a responsibility to ensure that patients know how to use their inhalers correctly. With the availability of new inhaler devices ever-increasing, the need for health care practitioners to be proficient and skilled in their use remains a challenge. Research suggests that only 15% of health care practitioners are able to demonstrate correct use of inhalers. [(3)] Training health care practitioners in the correct use of inhalers can overcome this lack of knowledge/skills.
Four key principles that health care practitioners (pulmonary specialists) need to know with regards to inhalation therapies are[(4)]:

- Be aware of the devices that are currently available.
- To deliver the prescribed drugs; know the various techniques that are appropriate for each device.
- Be able to evaluate the patient's inhalation technique to be sure they are using the devices properly.
- Ensure that the inhalation method is appropriate for each patient.

Inhaler techniques need to be delivered in an effective format such as demonstration by the health-provider, use of additional tools such as audio-visual feedback and video clips. Inhaler technique needs to be checked and education repeated over time. Communication between health-care practitioner and patient is very important.

Conclusion

Correct inhaler technique is important in achieving good clinical outcomes for patients with asthma and COPD. The common errors with inhalation devices are known and need to be addressed. Health care practitioners need to make sure that they know how to use each inhaler they prescribe and commit to training the patient in the correct use, utilizing a placebo inhaler.

References

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