

Do emergency department (ED) healthcare professionals have sufficient knowledge of inhaler technique to educate patients efficiently?

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Background

- Patients are commonly prescribed inhalers for treatment of asthma and Chronic Obstructive Pulmonary Disease (COPD) in the emergency department.
- Most patients do not use their inhalers properly and have not had their inhaler technique checked by a health care professional (HCP).
- Teaching inhaler technique may lower the risk of exacerbations and death.
- Proficiency of inhaler technique wanes over time and needs to be rechecked and corrected regularly.
- Numerous studies demonstrate that HCPs themselves have poor inhaler technique.

Description

This study aims to assess whether HCPs in the emergency department at Prince of Wales hospital are able to demonstrate correct inhaler technique using a metered dose inhaler (MDI) to enable them to accurately demonstrate and assess the inhaler technique of their patients.

Actions

60 HCPs (20 ED doctors, 20 ED nurses and 20 hospital pharmacists) were asked to demonstrate step-by-step how they would self-administer two doses using a placebo MDI (Rapihaler).

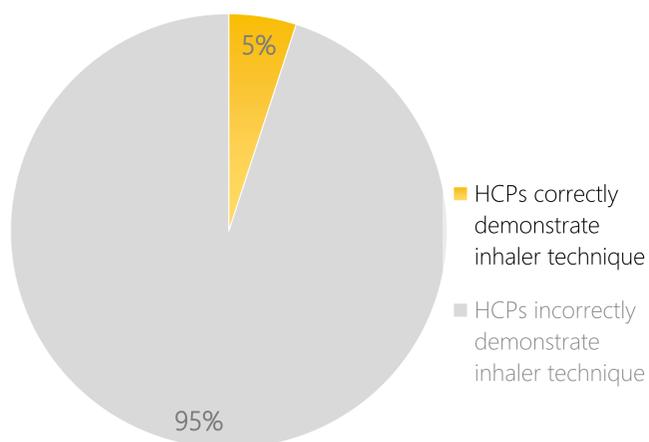
Recruitment strategies were opportunistic (approaching HCPs on the ED floor and in the pharmacy department).

A trained observer graded each participant's inhaler technique using a seven-step checklist (based on the National Asthma Council Australia (NACA) guidelines).

Results of inhaler technique and an inhaler technique checklist (developed by NACA) were given as feedback to participants immediately after their assessment

Results and Evaluation

Proportion of HCPs able to adequately demonstrate correct inhaler technique



Of the 60 participants assessed only 3 (5%) of HCPs could correctly demonstrate self-administration of all recognized steps in administration.

Proportion of steps incorrectly performed by HCPs

Error	First Dose % HCP	Second Dose % HCP
Not shaking inhaler adequately	22%	88%
Not holding inhaler upright	8%	48%
Actuation at total lung capacity / not exhaling residual volume before inhaling	5%	22%
Inadequate/no breath hold after inhalation	10%	18%
Failure to co-ordinate actuation and inhalation	7%	15%
Exhaling into mouthpiece after inhalation	0%	8%
Holding device in wrong position/incorrectly	0%	8%

Implications

- Incorrect inhaler technique increases the risk of severe flare-ups or hospitalisation for patients with asthma or COPD.
- Health care professionals need to be able to adequately educate or assess and correct inhaler technique in patients in or on discharge from the ED.
- There are several different inhaler devices available on the market.
- Health care professionals should be able to assess patients' technique on the inhaler device they currently use.

Conclusion

- Health care professionals have a responsibility to ensure patients use inhalers correctly, to allow for maximum healthcare outcomes and to prevent hospital readmission.
- To adequately educate patients to use MDI inhalers effectively in and on discharge from ED, health care professionals need to be able to demonstrate correct inhaler technique.
- Healthcare professionals have a responsibility to keep abreast of new inhaler devices and master techniques themselves.

References

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