



The use of placebo inhaler devices, peak flow meters and inspiratory flow meters in clinical practice

Introduction

The multi-patient use of placebo inhaler devices, spacer devices, peak flow meters and inspiratory flow meters is an issue because of the potential risk of cross infection. Current practice is variable and has the potential for poor clinical practice and placing the patient at risk. The cleaning of these devices is an ongoing concern for those involved in respiratory care (Clancy 2003).

European Directives on the use of medical devices has implications for all health professionals and pharmaceutical companies. It is important that the consequences of poor inhaler technique are not forgotten because it results in:

- Poor control of respiratory diseases such as asthma and COPD
- Potential ill-health for the patient
- Significant cost implications if devices are not used correctly or prescribed appropriately.

Infection risks

The Medicines and Healthcare Products Regulatory Agency (MHRA) has statutory functions and responsibilities to safeguard public health and safety, while NHS trusts are required to have a structure and system for managing risk. (HSC1999/123; DOH 2004).

Medical devices are regulated under the Medical Devices Regulations 2002 (HMSO 2002) and are defined by the European Medical Device Directive (MDA 93/42/EEC; MDA 1998; MDA/2003/001).

All infection risks need to be minimised (HSC 1999/ 123; HSC 1999/178; HSC 1999/179). Hand hygiene is '*possibly the most important factor in preventing hospital acquired infection but compliance is poor*' (DOH 2002). In an attempt to minimise risk of cross-infection, a number of publications have been published by both government departments on decontamination and infection control (HSC 1999/179; HSC 2000/032; HSC 2000/002; HPSS 2004a; HPSS 2004b; MDA 1995 (DB 9501); MDA DB2000(04); MHRA 2003; NICE 2003).

Infections that are a cause for concern include:

- Acquired immune deficiency syndrome(AIDS)
- Burkholderia cepacia
- Hepatitis –B &C
- Methicillin- resistant Staphylococcus aureus (MRSA)
- Rhinovirus and other upper respiratory tract infections
- TB

However literature reviews have found that currently there is little evidence of cross infection from placebo inhaler devices or lung function equipment (Kendrick 2003, Weller & Levy 2002).

Clinical use of placebo inhaler devices, peak flow meters and inspiratory flow meters

It is accepted good practice to teach the patient how to use their inhaler or peak flow meter device correctly. This practice is supported in the following documents:

- The British Thoracic Society (BTS)/ Scottish Intercollegiate Guideline Network (SIGN) Asthma Guideline (BTS/SIGN 2004) stresses the importance of checking inhaler technique as good practice and states patients should have their ability to use an inhaler device regularly assessed by a competent healthcare professional

In addition there is Grade B evidence to support the recommendation:

- Prescribe inhalers only after patients have received training in the use of the device and have demonstrated satisfactory technique (Brocklebank 2001).
- The Asthma Charter from Asthma UK advocate that the person with asthma is shown how to use their inhaler device (Asthma UK 2003)
- The NICE Guideline on Inhaler devices for the routine treatment of chronic asthma in older children (aged 5-15 years) (NICE 2002), recognises that inhaler technique is important when choosing a suitable inhaler device.
- The NICE COPD Guidelines (NICE 2004) state that:
 - Inhalers should be prescribed only after patients have received training in the use of the device and have demonstrated satisfactory technique.
 - Patients should have their ability to use an inhaler device regularly assessed by a competent healthcare professional and, if necessary, should be re-taught the correct technique
- In the Quality Indicator Outcomes for Chronic Obstructive Pulmonary Disease in the new General Medical Services Contract (DOH 2003), checking inhaler technique attracts points for financial reward.

Correct inspiratory flow rate is necessary to use an inhaler device correctly. Inspiratory Flow meters are a useful tool for identifying the appropriateness of a number of inhaler devices. Any infection risk assessment must include inspiratory peak flow meters.

Peak flow meters are essential for monitoring chronic asthma and for the objective assessment and treatment of acute asthma (BTS/SIGN 2004). Infection issues are similar to those of inhaler devices and need to be taken into account when undertaking risk assessment.

Summary

There is a theoretical risk of infection when using placebo devices, peak flow meters and inspiratory flow meters between patients. An appropriate risk assessment must be undertaken by NHS Trusts in secondary and primary care to identify the risks to patients and an infection control policy established once this has taken place. Failure to take account of the practical issues facing healthcare professionals and national guideline recommendations, could adversely affect patients with respiratory disease.

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