ORAL INHALATION THERAPY FOR BRONCHO-CONSTRICTIVE DISEASE MANAGEMENT: MEETING THE CHALLENGE OF DEVELOPING MORE PATIENT APPROPRIATE DEVICES

Jolyon P. Mitchell
Trudell Medical International, London, Canada

BACKGROUND

• Misuse of inhalers is a major cause of failure to meet therapeutic goals in the treatment of asthma and COPD
• Inhaler manufacturers are required by regulators to provide patient information leaflets (PILs) to educate the user in correct operation
• These aids are often discarded shortly after the device package is opened without being read and understood
• There is strong evidence that even when correct technique is taught, patients rapidly forget critical steps, reverting to old habits
• Manufacturers have responded to this challenge by attempts to make their products more intuitive to use
• Such improvements have to avoid completely to keep within cost limits for payers
• Especially necessary in countries like the UK, where the national body responsible for advising which product is approved for reimbursement on the tariff for the health service by assessing the cost benefit
• Some improvements, such as easy-to-read instructions, including on-device pictograms (where space allows) that are age appropriate are simple, but effective

CONSUMER FRIENDLY USE/ CARE INSTRUCTIONS

INSTRUCTIONS FOR USE ON DEVICE

• Easy to understand pictographs rather than fine print text
• Many users, especially the elderly, have poor vision
• Child friendly markings on pediatric products to attract and maintain interest

APPROPRIATE APPEARANCE OF DEVICE

• Large font graphics presented in easy-to-assimilate format

REFERENCES


THE FLOW-VU® INSPIRATORY FLOW INDICATOR

• Valve-Free Holding Chambers (VHCs) are used with pressurized Metered Dose Inhalers (MDIs) to avoid losses of medication that would otherwise occur if their coordination of inspiration with inhaler actuation was less than perfect
• Surveys of clinicians, patients and caregivers revealed that providing assurance that the inhalation valve was opening and remained open during the inhalation portion of each breathing cycle would be beneficial
• The inhalation valve cannot be seen by the patient using a mouthpiece VHC
• The transition to HFA- from CFC-based propellants has eliminated the feedback stimulus from the so-called 'cold front' effect, as the propellant flash evaporates entering the upper airway of the user
• The Flow-Vu® Indicator is an integral part of the VHC
• Transparent housing protects it from tampering
• Movement of the Flow-Vu® Indicator is linked to inhalation valve opening and closing
• Patient/caregiver simply uses the Flow-Vu® Indicator as a guide to encourage slow inhalation by keeping flap in ‘valve open’ position

VHC FEATURES PROVIDING PATIENT FEEDBACK

• Whistle signal if the inhalation is too fast

ACTUATION INDICATOR FOR A BREATH ACTUATED NEBULIZER

• The AeroEclipse® II Breath Actuated Nebulizer (BAN) is a mechanically operated dosimetric nebulizer
• The vertically moving actuator mechanism is a key feature of this device, as its location with respect to the atomization nozzle determines whether or not aerosol is formed

SUMMARY

• Given the recent call for improved inhalation technique in Europe, regulators might wish to encourage the development of such patient friendly features to assist clinicians to help patients manage their disease more effectively

A FINAL WORD ABOUT DEVICE DESIGN

• Build in features that are simple and support optimum delivery of medication
• Facemasks that have flexible lips to seal reliably to the face with minimum applied force
• Essential for VHCs
• Minimizes dead space
• Encourages cooperation, especially with infants and toddlers
• Encourages cooperation, especially with infants and toddlers

Flow-Vu® Indicator – New Feature

Flow-Vu® Indicator – Well Established Aid

REFERENCES