

## Management Aids

### Key Points to Cover With Patients

- Different inhaler delivery systems are available for asthma medications: nebulizers, metered-dose inhalers (MDIs) (chlorofluorocarbon propellant, hydrofluoroalkane propellant, Autohaler), dry powder inhalers (DPIs) (single- or multi-dose). Nebulizers are probably no better than a properly used MDI with spacer, but in individual cases may be preferred for the delivery of inhaled quick-relief medications, cromolyn, or steroids. Self-actuating inhalers, such as the Autohaler, may be easier to use for some children. Dry powder inhalers are also easier to use for children because they do not require coordination of actuation with inspiration.
- Proper technique for the use of inhalers should be taught at the initial visit and reviewed at subsequent visits. Closed mouth or open mouth technique should be discussed, with the open mouth preferred if the child is able. Dry powder inhaler technique should be reviewed for those using such devices.
- Spacers/holding chambers can be helpful to overcome coordination problems with the use of MDIs, reduce adverse taste, decrease the oral deposition of the drug, and increase the deposition of drugs in the lungs. Spacers should always be used with inhaled corticosteroids and should be considered for all MDI use in younger children. Holding chambers are spacers with larger volumes and one-way valves that keep expired air from re-entering the “holding chamber.” Holding chambers are usually used in younger children. In addition, holding chambers can be fitted with masks and used with children as young as infants. The type of spacer prescribed will depend on the age, development, and “attitude” of the child.
- Peak flow meters are useful for the monitoring of asthma and determining the severity of an exacerbation. They can serve to improve the communication between provider and patient/parent. They can also be used for following the effects of addition or deletion of medications. Peak flow technique should be taught at the initial visit and its use reinforced at subsequent visits.

American Academy of Pediatrics

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