
SMART for Asthma at School

What is SMART?

SMART is **S**ingle **M**aintenance **A**nd **R**eliever **T**herapy. The same inhaler is used for 'everyday' medication and rescue 'emergency' therapy. This single inhaler is a combination inhaler referred to as an ICS-LABA. ICS refers to the inhaled corticosteroid combined with a LABA which stands for long-acting beta agonist. You will most often see Budesonide-Formoterol being used, and it goes by brand names of Symbicort or Breyna.

- Formoterol is a long-acting beta-agonist with effects lasting up to 12 hours, and onset of action within 1-5 minutes of inhalation.
- Albuterol is a short-acting beta agonist with effects lasting up to 4 hours, and onset of within 1-5 minutes.
- The rapid onset of formoterol allows it to replace albuterol for treatment of asthma symptoms.

Recent studies have shown that using SMART can decrease the number of severe asthma exacerbations. The introduction of SMART to clinical practice has been slow, as it takes time to change how we all treat asthma as a community.

What does a SMART asthma action plan look like?

GREEN ZONE: Maintenance (Everyday) doses of ICS-formoterol will vary depending on asthma severity but are generally 1-2 puffs given one or two times per day.

YELLOW ZONE: When asthma symptoms flare, take 2 puffs of ICS-formoterol with your spacer. Wait 10 minutes, if symptoms do not improve, take 2 additional puffs with your spacer. A maximum of 4 puff ICS-formoterol can be given in an hour.

With ICS-Formoterol inhalers, there is a daily maximum number of puffs that patients should not exceed. This includes their daily maintenance doses and should be listed in their asthma action plan.

For **children 5-11:** Do not use more than 8 puffs per day (including maintenance/everyday dose)

For **children 12+:** Do not use more than 12 puffs per day (including maintenance/everyday doses).

For some patients, ICS-formoterol does not provide symptomatic relief, and they are advised to use albuterol instead. This will be clearly stated in the Yellow Zone.

NOTICE: Communicate with families/guardians when additional yellow zone puffs of ICS-formoterol are given so that all are aware and can count these toward the maximum doses for the day for the student.

RED ZONE: Most patients will still have albuterol in the Red Zone. For this reason, they will likely have two inhalers at school (ICS-formoterol and albuterol). For patients using ICS-formoterol in the Red Zone they are advised to take 1 puff every 1-3 minutes for a maximum of 6 puffs while seeking emergency medical care. It will be clearly written whether the patient should use albuterol or ICS-formoterol in the Red Zone.

When should I seek emergency care?

For children aged 5-11: if they need more than 4 puffs in 1 hour or if severe symptoms leading to activation of Red Zone of the Asthma Action Plan

For children aged 12+: if they use more than 6 puffs in 1 hour or have severe symptoms leading to activation of Red Zone of the Asthma Action Plan