

## Pearls and Evidence for Preferred Therapy with AIR

- **GINA Track 1** in which low dose ICS-formoterol is used as a reliever with or without maintenance ICS-formoterol is the preferred treatment approach for children 12+ years of age and adults. This approach **reduces severe exacerbations across all treatment steps compared with using SABA as reliever**.
- It uses a single inhaler for both maintenance and reliever which is less confusing for patients, and a patient's treatment can be stepped up or down according to clinical need without changing the medication or device. This cannot be done with any other ICS-LABA combination except ICS-formoterol. ICS-formoterol can also be used prior to exercise or allergen exposure.
- **Low dose ICS-formoterol is called an anti-inflammatory reliever (AIR)** because it relieves symptoms and reduces inflammation. AIR with ICS-formoterol *significantly reduces the risk of severe exacerbations* compared with using SABA as a reliever with *similar symptom control*, lung function and adverse effects.

**Steps 1-2 (AIR only): low dose ICS-formoterol is used as needed for symptom relief without any maintenance treatment.** It reduces the risk of severe exacerbations and ED visits/admissions by **65% compared with SABA alone** and **by 37% compared to daily ICS with SABA as reliever**. Starting ICS-formoterol as reliever avoids training patients to regard SABA as their main asthma treatment.

**Steps 3-5 (S)MART):** maintenance and reliever therapy with ICS-formoterol reduces the risk of severe exacerbations **by 32% compared with the same dose of ICS-LABA, by 23% compared with higher dose ICS-LABA**, and by 17% compared with the usual care. (S)MART is also an option for children ages 6-11 who require Steps 3-4 therapy.

Sobieraj DM, et al., *JAMA* 2018; 319: 1485-1496.

Cates CJ, et al., *Cochrane Database Syst Rev* 2013; 4: CD007313.

Crossingham I, et al., *Cochrane Database Syst Rev* 2021; 5: CD013518.

## Age Based Doses of ICS-formoterol for (S)MART\*

Step	Age (years)	Medication and strength (per 2 puffs of pMDI)	Dosage (number of puffs)
<b>Steps 1-2 (AIR only)</b>	6 - 11	NO EVIDENCE TO DATE	1 puff whenever needed
	12 - 17	Budesonide-formoterol 160/4.5	
	>18	Budesonide-formoterol 160/4.5	
<b>Step 3 ((S)MART)</b>	6 - 11	Budesonide-formoterol 80/4.5	1 puff once or twice daily (once daily for children), PLUS 1 puff whenever needed
	12 - 17	Budesonide-formoterol 160/4.5	
	>18	Budesonide-formoterol 160/4.5	
<b>Step 4 ((S)MART)</b>	6 - 11	Budesonide-formoterol 80/4.5	2 puffs twice daily (1 puff twice daily for children), PLUS 1 puff whenever needed
	12 - 17	Budesonide-formoterol 160/4.5	
	>18	Budesonide-formoterol 160/4.5	
<b>Step 5-6 ((S)MART)</b>	6 - 11	NOT RECOMMENDED	2 puffs twice daily, PLUS 1 puff whenever needed
	12 - 17	Budesonide-formoterol 160/4.5	
	>18	Budesonide-formoterol 160/4.5	

\*Table adapted from GINA 2023, Box 3-15, p. 80. Available at [ginasthma.org](http://ginasthma.org).

- Most evidence for (S)MART and all the evidence for as needed only ICS-formoterol (Anti-inflammatory reliever or AIR) only as needed is with budesonide-formoterol 160/4.5 for ages 12+ and budesonide-formoterol 80/4.5 for ages 6-11 years. Other low dose ICS-formoterol products may be suitable but have not been studied.
- *For as needed use*, the dose is 2 puffs of MDI (see strength below) whenever needed for symptom relief, or before exercise/allergen exposure.
- *For maintenance use*, the dose is 2-4 puffs of MDI depending on age.
- Patients do not need to wait a certain number of hours between reliever doses (as with SABA)
- Maximum total doses per day for (S)MART is 8 doses for ages 6-11 and 12 puffs for ages 12+