time a SABA is taken—is not recommended by the CTS outside of harm mitigation strategies in adults ≥18 years old.

WHAT ARE THE PHARMACOLOGICAL TREATMENT OPTIONS IN MILD ASTHMA?

Daily ICS remain the first-line treatment for mild asthma (Figure 1), with ongoing evidence that mild asthma is better controlled with daily ICS and PRN SABA (versus PRN SABA alone), including in preschoolers.

As a second-line option to daily ICS, the CTS 2021 Asthma Guidelines still include a daily leukotriene receptor antagonist (LTRA) as an option for individuals of any age who cannot or will not use daily ICS. There is a risk of neuropsychiatric side effects, most commonly irritability, aggressiveness, anxiety, and sleep disturbance, reported in up to 16% of paediatric patients started on LTRAs.

For adolescents ≥12 years of age with mild asthma, the CTS guidance recognizes PRN bud/form as a therapeutic option instead of low-dose daily ICS plus PRN SABA, but PRN bud/form is the preferred option *only* for individuals with poor adherence to daily ICS despite substantial patient education and support.

Budesonide/formoterol is only available as a dry powder inhaler, and practitioners should ensure that the individual can use this device properly, which requires inhaling consistently, deeply, and forcefully to get the medication out of the device. The 200/6 mcg inhaler is approved for use as a PRN medication only for adolescents ≥12 years of age (1 puff PRN to a maximum of 6 puffs on one occasion, or 8 puffs per day). Practitioners should be aware that coverage through extended health care or provincial/territorial health plans is variable.

SHOULD SHORT COURSES OF ICS BE USED FOR CHILDREN WITH ASTHMA?

The intermittent use of ICS at the onset of asthma symptoms, usually for 10 to 14 days, remains a common practice despite long-standing recommendations against this strategy (5). Intermittent ICS use is appealing for a variety of reasons, including: (1) Ease of adherence, due to a symptom-driven (rather than daily) regimen; (2) The perception that a child without symptoms has no active disease; and (3) Apprehension about the side effects of ICS. Also, recent international guidelines recommending against the use of PRN SABA alone, and endorsing its use in combination with ICS use when PRN SABA is required, may have confused the issue of whether an intermittent or continuous ICS strategy is best in children with very mild or mild asthma.

Recent CTS guidelines do not recommend intermittent courses of ICS at onset of an acute loss of asthma control, compared with PRN SABA. Rather, they recommend daily ICS as the preferred strategy for most asthmatic children (Box 1). This strategy is based on consistent evidence for decreased exacerbations, better asthma control, and improved lung function of daily ICS compared with PRN SABA (1). Evidence of benefit also includes more days with well-controlled asthma and less use of beta-agonists with the use of regular ICS, when compared with their intermittent use on an "as needed" basis (5).

Controversy arose regarding intermittent use of ICS with 2020 recommendations from the National Heart, Lung, and Blood Institute (NHLBI). They endorsed short courses of PRN inhaled steroids in pre-school children (e.g., in the form of nebulized budesonide) with onset of viral upper respiratory tract infection (URTI) symptoms, if children are asymptomatic between wheezing episodes (4). The studies that showed decreased exacerbations with short courses of ICS all used very high doses of inhaled steroids (e.g., 2 g of budesonide daily, 1500 mcg of fluticasone propionate daily). The frequency of URTI symptoms in preschoolers risks higher-than-necessary doses of ICS to achieve symptom control, thus increasing risk for steroid-related adverse events. This approach is not recommended by the CTS.

To assist best practice, refer to the following:

- For providers: A summary of the CTS Asthma Guideline and a visual summary of asthma medication available in Canada, available at the CTS website.
- For parents and patients: Asthma in children and youth, with frequently asked questions, can be downloaded at no cost from the CPS CaringforKids website.
- For patients aged 12 and older with mild asthma: A patient and family decision aid and patient/provider conversation aid, largely validated for adults, are available in print and electronic form online.

Box 1. Summary of recommended of best practice when managing very mild and mild asthma in preschoolers, children, and adolescents

- Change to asthma control criteria for daytime symptoms and frequency of reliever need. Recommended criteria are: Daytime symptoms ≤2 days per week AND Need for reliever ≤2 doses per week. (Previous recommendation was Daytime symptoms <4 days per week AND Need for reliever <4 doses per week.)
- Assess risk of exacerbation AND asthma control. An individual is at higher risk of exacerbation when any one of the following apply:
  - History of previous severe asthma exacerbation (requiring systemic steroids OR an emergency department visit OR hospitalization).
  - Poorly controlled asthma (Table 3).
  - Use of more than two shorting-acting-beta-agonist (SABA) inhalers in one year, which indicates overuse, or
  - Being a current smoker.
- Individuals at higher risk for exacerbation should **not** be prescribed as-needed (PRN) SABA alone.
- For individuals ≥12 years of age, consider PRN bud/form when there is poor adherence to daily medication despite substantial education and support.
- Daily inhaled corticosteroid (ICS) use is the preferred approach for individuals with very mild asthma at higher risk for exacerbation, or mild asthma.
- Recommendation against intermittent short course ICS is unchanged from previous guidance.