

LEARNING OBJECTIVE 16

Controller Therapy for Asthma

Plan the appropriate use of controller therapy in a patient with asthma.

Quick Points**Know**

- For intermittent asthma:
 - Use a short-acting β_2 -agonist (SABA) for all age groups.
 - For children ≤ 4 years of age who have recurrent wheezing with respiratory tract infections and no symptoms when well, add a short (7–10 days) course of inhaled corticosteroids (ICS) at the start of a respiratory tract infection.
- For mild persistent asthma:
 - Use low-dose ICS as the preferred initial controller therapy for all age groups.
 - For children ≥ 12 years of age, you may also use ICS and SABA concomitantly as needed without the use of daily therapy.
- For moderate persistent asthma:
 - ≤ 4 years of age
 - Medium-dose ICS
 - 5–11 years of age
 - Low-dose ICS + formoterol (a long-acting β_2 -agonist [LABA])—daily and as-needed single maintenance and reliever therapy (SMART)
 - ≥ 12 years of age
 - Low-dose ICS + formoterol—daily and as-needed SMART
- For severe persistent asthma:
 - ≤ 4 years of age
 - Medium-dose ICS + LABA
 - If persistent poor control, use high-dose ICS + LABA.
 - 5–11 years of age
 - Medium-dose ICS + formoterol—daily and as-needed SMART
 - For persistent poor control, use high-dose ICS + LABA and consider omalizumab (if ≥ 6 years of age).
 - ≥ 12 years of age
 - Medium-dose ICS + formoterol—daily and as-needed SMART
 - For persistent poor control, use medium- or high-dose ICS + LABA and a long-acting muscarinic antagonist (LAMA). Consider adding biologic therapies.

TOPIC SUMMARY

For patients with mild persistent asthma, low-dose inhaled corticosteroids (ICS) are the preferred initial controller therapy for all age groups. In children ≥ 12 years of age, you may also use ICS as needed and a short-acting β_2 -agonist (SABA) concomitantly without the use of daily therapy. For patients ≤ 4 years of age who have recurrent wheezing with respiratory tract infections and are asymptomatic when well, add a short (7–10 days) course of daily ICS at the start of a respiratory tract infection.

For patients with moderate persistent asthma who are ≤ 4 years of age, initial controller therapy is medium-dose ICS. Controller therapy in patients 5–11 and ≥ 12 years of age is daily and as-needed low-dose ICS + formoterol (a long-acting β_2 -agonist (LABA)). This is called single maintenance and reliever therapy (SMART) and is recommended for certain age groups in the 2020 Focused Updates to the NIH Asthma Management Guidelines. Formoterol is the only LABA that can be used for SMART because of its quick onset of action.

For patients with severe persistent asthma who are ≤ 4 years of age, initial controller therapy includes medium-dose ICS + LABA. Patients with persistent poor control should use high-dose ICS + LABA. Therapy in patients 5–11 years of age includes medium-dose ICS + formoterol SMART. Patients with persistent poor control should use high-dose ICS + LABA. Consider adding the anti-IgE biologic agent omalizumab in children ≥ 6 years of age.

Finally, the preferred controller therapy in patients ≥ 12 years of age is medium-dose ICS + formoterol SMART. Patients with persistent poor control should use medium or high dose ICS + LABA and a long-acting muscarinic antagonist (LAMA). Consider adding biologic therapies (e.g., omalizumab, dupilumab, mepolizumab).

In patients who are not responding well to therapy, treatments should be “stepped up.” For example, a patient with mild persistent asthma using low-dose ICS who has persistent symptoms should be switched to therapy for moderate persistent asthma for their specific age group.

Resource

U.S. Department of Health and Human Services. 2020 focused updates to the NIH asthma management guidelines: a report from the National Asthma Education and Prevention Program Coordinating Committee Expert Panel Working Group.
<https://www.nhlbi.nih.gov/resources/2020-focused-updates-asthma-management-guidelines>