



Stepwise Approach for Managing Asthma in Children and Adults (from 2007 NAEPP Guidelines)

| Criteria apply to all ages unless otherwise indicated | IMPAIRMENT | | | | | RISK | Step |
|---|---|---|-----------------------------------|-------------------------------|---|---|--|
| | Daytime Symptoms  | Nighttime Awakenings  | Interference with normal activity | Short-acting beta-agonist use | FEV ₁ % predicted (n/a in age <5) | Exacerbations requiring oral systemic corticosteroids | |
| Classification of Asthma SEVERITY: TO DETERMINE INITIATION OF LONG-TERM CONTROL THERAPY Consider severity and interval since last exacerbation when assessing risk. | | | | | | | |
| Severe Persistent | Throughout the day | >1x/week Often 7x/week | Extremely limited | Several x/day | <60% | <5: ≥2 in 6 months OR ≥4 wheezing episodes in 1 year lasting >1 day AND risk factors for persistent asthma 5-adult: ≥2/year | <5: Step 3 5-11: Step 3 Medium-dose ICS option or Step 4 12-adult: Step 4 or 5 All ages: Consider short course OCS |
| Moderate Persistent | Daily | 3-4x/month >1x/week but not nightly | Some | Daily | 60-80% | | <5: Step 3 5-11: Step 3 Medium-dose ICS option 12-adult: Step 3 All ages: Consider short course OCS |
| Mild Persistent | >2 days/week but not daily | 1-2x/month 3-4x/month | Minor | >2 days/week but not daily | >80% | | Step 2 |
| Intermittent | ≤2 days/week | 0 ≤2x/month | None | ≤2 days/week | >80% | 0-1/year | Step 1 |

| Classification of Asthma CONTROL: TO DETERMINE ADJUSTMENTS TO CURRENT CONTROL MEDICATIONS Consider severity and interval since last exacerbation and possible medication side effects when assessing risk. | | | | | | | Action: In children <5, consider alternate diagnosis or adjusting therapy if no benefit seen in 4-6 weeks. | |
|--|--------------------|-----------|-----------|-------------------|-------------------|--------|--|--|
| <12 years 12-adult | | | | | | | | |
| Very Poorly Controlled | Throughout the day | ≥2x/week | ≥4x/week | Extremely limited | Several times/day | <60% | <5: >3/year 5-adult: ≥2/year | Step up 1-2 steps. Consider short course OCS. Reevaluate in 2 weeks. For side effects, consider alternate treatment. |
| Not Well Controlled | >2 days/week | ≥2x/month | 1-3x/week | Some | >2 days/week | 60-80% | <5: 2-3/year 5-adult: ≥2/year | Step up at least 1 step. Reevaluate in 2-6 weeks. For side effects, consider alternate treatment. |
| Well Controlled | ≤2 days/week | ≤1x/month | ≤2x/month | None | ≤2 days/week | >80% | 0-1/year | Maintain current treatment. Follow-up every 1-6 months. Consider step down if well controlled for at least 3 months. |

| Daily Doses of common inhaled corticosteroids | Fluticasone | | | Budesonide | | | Beclomethasone | | | Fluticasone/Salmeterol DPI | Budesonide/Formoterol MDI |
|---|-------------|------------------|------|------------|----------------------|------|----------------|------------------|------|-----------------------------|----------------------------|
| | Low | MDI (mcg) Medium | High | Low | Respules (mg) Medium | High | Low | MDI (mcg) Medium | High | | |
| <5 years | 176 | >176-352 | >352 | 0.25-0.5 | >0.5-1 | >1 | n/a | n/a | n/a | n/a | n/a |
| 5-11 years | 88-176 | >176-352 | >352 | 0.5 | 1 | 2 | 80-160 | >160-320 | >320 | 100/50 mcg 1 inhalation BID | 80 mcg/4.5 mcg 2 puffs BID |
| 12 years-adult | 88-264 | >264-440 | >440 | n/a | n/a | n/a | 80-240 | >240-480 | >480 | Dose depends on patient | Dose depends on patient |

Abbreviations:
 SABA: Short-acting beta-agonist
 LABA: Long-acting beta-agonist
 LTRA: Leukotriene-receptor antagonist
 ICS: Inhaled corticosteroids
 LD-ICS: Low-dose ICS
 MD-ICS: Medium-dose ICS
 HD-ICS: High-dose ICS
 OCS: Oral corticosteroids
 CRM: Cromolyn
 NCM: Nedocromil
 THE: Theophylline
 MLK: Montelukast
 ALT: Alternative

| | | | | | |
|------------------------------|--|---|---|---|--|
| Step 1 | Step 2 | Step 3 | Step 4 | Step 5 | Step 6 |
| Preferred SABA prn | Preferred LD-ICS Alternative <5: CRM or MLK 5-adult: CRM, LTRA, NCM, or THE | Preferred <5: MD-ICS 5-11: EITHER LD-ICS plus LABA, LTRA or THE OR MD-ICS 12-adult: LD-ICS plus LABA OR MD-ICS Alternative 12-adult: LD-ICS plus either LTRA, THE or Zileuton | Preferred <5: Medium-dose ICS plus either LABA or MLK 5-adult: MD-ICS plus LABA Alternative 5-11: MD-ICS plus either LTRA or THE 12-adult: MD-ICS plus either LTRA, THE or Zileuton | Preferred <5: HD-ICS plus either LABA or MLK 5-11: HD-ICS plus LABA 12-adult: High-dose ICS plus LABA AND consider Omalizumab for patients who have allergies Alternative 5-11: HD-ICS plus either LTRA or THE | Preferred <5: HD-ICS plus either LABA or MLK plus OCS 5-11: HD-ICS plus LABA plus OCS 12-adult: HD-ICS plus LABA plus OCS AND consider Omalizumab for patients who have allergies Alternative 5-11: HD-ICS plus either LTRA or THE plus OCS |

← **Step down if possible** (asthma well-controlled at least 3 months) / **Step up if needed** (check adherence, technique, environment, co-morbidities) →