

Estimated comparative daily doses for inhaled glucocorticoids in adolescents 12 years and adults

Drug	Low dose (total daily dose)	Medium dose (total daily dose)	High dose (total daily dose)*
<b>Beclomethasone HFA</b> (Qvar Redistaler product available in United States) Administer as 2 divided doses 40 mcg per actuation 80 mcg per actuation	80 to 160 mcg 2 or 4 inhalations	>160 to 320 mcg 1	>320 to 640 mcg 1
<b>Beclomethasone HFA<sup>†</sup></b> (Qvar product available in Canada, Europe, and elsewhere) Administer as 2 divided doses 50 mcg per actuation 100 mcg per actuation	100 to 200 mcg 2 to 4 inhalations	>200 to 400 mcg 1 4 inhalations	>400 to 800 mcg 1 6 or 8 inhalations
<b>Budesonide DPI</b> (Pulmicort Flexhaler product available in United States) Administer as 2 divided doses 90 mcg per actuation 180 mcg per actuation	180 to 360 mcg 2 or 4 inhalations	>360 to 720 mcg 1 4 inhalations	>720 to 1440 mcg 1 6 or 8 inhalations
<b>Budesonide DPI<sup>‡</sup></b> (Pulmicort Turbuhaler or Turbuhaler product available in Canada, Europe, and elsewhere) Administer low doses (ie, ≤400 mcg/day) once daily; administer higher doses (ie, >400 mcg/day) as 2 to 4 divided doses 100 mcg per actuation 200 mcg per actuation 400 mcg per actuation	200 to 400 mcg 2 or 4 inhalations	>400 to 800 mcg 1 1 to 2 inhalations 2 inhalations	>800 to 2400 mcg 1 1 3 to 6 inhalations
<b>Ciclesonide HFA</b> <b>§</b> (Alvesco product available in United States, Europe, and elsewhere) United States: Administer as 2 divided doses Australia, Europe, and elsewhere: Administer lower doses (ie, 160 to 320 mcg/day) once daily; administer 640 mcg dose as 2 divided doses 80 mcg per actuation 160 mcg per actuation	160 mcg 2 inhalations o	320 mcg 4 inhalations 2 inhalations	640 mcg 1 4 inhalations
<b>Ciclesonide HFA<sup>¶</sup></b> (Alvesco product available in Canada) Administer lower doses (eg, 100 to 400 mcg) once daily; administer 800 mcg dose as 2 divided doses 100 mcg per actuation 200 mcg per actuation	100 to 200 mcg 1 to 2 inhalations 1 inhalation	>200 to 400 mcg 3 to 4 inhalations 1 inhalation	>400 to 800 mcg 1 3 to 4 inhalations
<b>Fluticasone propionate HFA</b> (Flovent HFA product available in United States) Administer as 2 divided doses 44 mcg per actuation 110 mcg per actuation 220 mcg per actuation	176 to 220 mcg 4 inhalations 2 inhalations o	>220 to 440 mcg 1 2 inhalations 2 inhalations	>440 to 1760 mcg 1 1 4 to 8 inhalations
<b>Fluticasone propionate HFA<sup>¶</sup></b> (Flovent HFA product available in Canada; Flutide Evohaler product available in Europe and elsewhere) Administer as 2 divided doses 50 mcg per actuation 125 mcg per actuation 250 mcg per actuation	100 to 250 mcg 2 to 4 inhalations 2 inhalations o	>250 to 500 mcg 1 4 inhalations 2 inhalations	>500 to 2000 mcg 1 1 4 to 8 inhalations
<b>Fluticasone propionate DPI</b> (Flovent Diskus product available in United States and Canada; Flutide Accuhaler product available in Europe and elsewhere) Administer as 2 divided doses 50 mcg per actuation 100 mcg per actuation 250 mcg per actuation	100 to 250 mcg 2 to 4 inhalations 2 inhalations o	>250 to 500 mcg 1 4 inhalations 2 inhalations	>500 to 2000 mcg 1 1 4 to 8 inhalations
<b>Fluticasone propionate DPI</b> (Armonair Duphaler product available in United States; Armony Respick product available in Canada) Administer as 2 divided doses 55 mcg per actuation 113 mcg per actuation 232 mcg per actuation	110 mcg 2 inhalations o o	226 mcg 1 2 inhalations o	464 mcg 1 1 2 or 4 inhalations
<b>Fluticasone furate DPI</b> (Arnuity Ellipta product available in United States, Canada, Australia, and elsewhere, but not available in Europe or UK) Administer once daily <b>NOTE:</b> Inhaled fluticasone furate has a greater anti-inflammatory potency per microgram than fluticasone propionate inhalers. Thus, fluticasone furate is administered at a lower daily dose and used only once daily. 50 mcg per actuation 100 mcg per actuation 200 mcg per actuation	50 mcg (by use of pediatric DPI, which is off-label in adolescents and adults) 1 inhalation o o	100 mcg 1 1 inhalation o	200 mcg 1 2 inhalations 1 inhalation
<b>Mometasone DPI</b> <b>¶</b> (Ammanex Turbuhaler product available in United States) May administer lower doses (ie, 220 to 440 mcg/day) once daily; administer 800 mcg dose as 2 divided doses 110 mcg per actuation 220 mcg per actuation	220 mcg 2 inhalations 1 inhalation	>220 to 440 mcg 1 2 inhalations	>440 to 880 mcg 1 4 inhalations
<b>Mometasone HFA</b> (Ammanex HFA product available in United States) Administer as 2 divided doses 100 mcg per actuation 200 mcg per actuation	200 mcg 2 inhalations o	>200 to 400 mcg 4 inhalations 2 inhalations	>400 to 800 mcg 1 4 inhalations
<b>Mometasone DPI<sup>‡</sup></b> (Ammanex Turbuhaler product available in Canada, Europe, and elsewhere) May administer lower doses (ie, 200 to 400 mcg/day) once daily; administer 800 mcg dose as 2 divided doses 200 mcg per actuation 400 mcg per actuation	200 mcg 1 inhalation o	>200 to 400 mcg 2 inhalations 1 inhalation	>400 to 800 mcg 1 2 inhalations

- The most important determinant of appropriate dosing is the clinician's judgment of the patient's response to therapy. The clinician must monitor the patient's response on several clinical parameters and adjust the dose accordingly. The stepwise approach to therapy emphasizes that once control of asthma is achieved, the dose of medication should be carefully titrated to the minimum dose required to maintain control, thus reducing the potential for adverse effects.
- Suggested total daily doses for low, medium, and high dose inhaled glucocorticoid regimens are based on daily doses recommended by Global Initiative for Asthma (GINA), National Asthma Education and Prevention Program (NAEPP), and/or product labeling<sup>[1-5]</sup>. This is not a table of equivalence.
- Depending on the specific product, total daily doses are administered once or divided and given twice daily. Refer to local product information or a clinical drug reference (eg, Lexicomp).
- Some doses are outside the approved product information recommendations.

DPI: dry powder inhaler; HFA: hydrofluoroalkane propellant metered dose inhaler.

\* Evidence for additional improvement with dose increases >1000 mcg/day is limited.

† Select alternate preparation with higher mcg/actuation to improve convenience.

‡ Products shaded in light gray color are not available in the United States but are available widely elsewhere.

§ Select preparation with fewer mcg/actuation.

Data from:  
 1. Global Initiative for Asthma (GINA). Global Strategy for Asthma Management and Prevention. 2022. Available at [www.ginasthma.org](http://www.ginasthma.org).  
 2. National Heart, Blood, and Lung Institute Expert Panel Report 3 (EP3 2): Guidelines for the Diagnosis and Management of Asthma. 2022. NIH Publication 08-4021 available at <http://www.nhlbi.nih.gov/health-pro/onlineonly/ep3report/guidelines/full-report-and-pro>.  
 3. US Food & Drug Administration (FDA). Approved product information: US National Library of Medicine. Available online at <http://dailymed.nlm.nih.gov/dailymed/>.  
 4. Health Canada approved product monograph. Health Canada. Available online at <http://www.hc-sc.gc.ca/ahc-cs/p024/p024-eng.php>.  
 5. European Medicines Agency (EMA) summary of product characteristics. European Medicines Agency. Available online at <http://www.ema.europa.eu/en/medicines/>.