# **Asthma Treatment Algorithm:**

To successfully treat asthma, you must first classify it and then be familiar with step therapy. For this assignment and in this course, we will focus on patients 12 years and older. Complete the blanks in the following table to create an algorithm for asthma care using your textbook as well as [GINA guidelines](https://ginasthma.org/wp-content/uploads/2021/05/GINA-Pocket-Guide-2021-V2-WMS.pdf) .

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Step** | **Asthma Classification** | **Asthma symptoms and frequency as noted in textbook** | | **Controller and Preferred Reliever:**  *(Drug Class and frequency if provided from GINA guidelines)* | **Controller and Alternative Reliever:**  *(Drug Class and frequency if provided from GINA guidelines)* |
| **Step 1** | Click or tap here to enter text. | **Daytime symptoms** | Click or tap here to enter text. | **Drug class:** Click or tap here to enter text.  **Frequency:** Click or tap here to enter text. | **Drug class:** Click or tap here to enter text.  **Frequency:** Click or tap here to enter text. |
| **Nighttime awakenings** | Click or tap here to enter text. |
| **Step 2** | Click or tap here to enter text. | **Daytime symptoms** | Click or tap here to enter text. | **Drug class:** Click or tap here to enter text. |
| **Nighttime awakenings** | Click or tap here to enter text. |
| **Step 3** | Click or tap here to enter text. | **Daytime symptoms** | Click or tap here to enter text. | **Drug class:**  Click or tap here to enter text. | **Drug class:** Click or tap here to enter text. |
| **Nighttime awakenings** | Click or tap here to enter text. |
| **Step**  **4-5** | Click or tap here to enter text. | **Daytime symptoms** | Click or tap here to enter text. | **Step 4:**  **Drug class:** Click or tap here to enter text. | **Drug class:** Click or tap here to enter text. |
| **Nighttime awakenings** | Click or tap here to enter text. | **Step 5:**  **Drug class:** Click or tap here to enter text.  **Refer for:** Click or tap here to enter text. | No change. |

# **Starting treatment:**

# *Complete this section using the GINA guidelines provided.*

**First Assess:**

1. Click or tap here to enter text.
2. Click or tap here to enter text.
3. Click or tap here to enter text.
4. Click or tap here to enter text.
5. Click or tap here to enter text.
6. Click or tap here to enter text.

**Fill in the blank:**

1. Using Click or tap here to enter text.as reliever reduces the risk of Click or tap here to enter text.compared with using a Click or tap here to enter text.reliever.

2. Before considering a regimen with a Click or tap here to enter text.reliever, check if the patient is likely to be adherent with Click or tap here to enter text..

# **Dosing: Low, Medium, High**

Low dose ICS provides most of the clinical benefit for most patients. However, ICS responsiveness varies between patients, so some patients may need medium dose ICS if asthma is uncontrolled despite good adherence and correct inhaler technique with low dose ICS. High dose ICS is needed by very few patients, and its long-term use is associated with an increased risk of local and systemic side-effects.

|  |  |  |  |
| --- | --- | --- | --- |
| **Adults and adolescents Inhaled corticosteroid** | **Total daily (24 hour) ICS dose (mcg)** | | |
| Low | Medium | High |
| BDP (pMDI, HFA) | 200-500 | >500-1000 | >1000 |
| BDP (DPI or pMDI, extrafine particle, HFA) | 100-200 | >200-400 | >400 |
| Budesonide (DPI or PMDI, HFA) | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Ciclesonide (pMDI, extrafine particle, HFA) | 80-160 | >160-320 | >320 |
| Fluticasone furoate | Click or tap here to enter text. | | Click or tap here to enter text. |
| Fluticasone propionate (DPI) | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Fluticasone propionate (pMDI, HFA) | Click or tap here to enter text. | Click or tap here to enter text. | Click or tap here to enter text. |
| Mometasone furoate (pMDI, HFA) | 200-400 | | 400 |

# **Treating Modifiable Risk Factors**

Exacerbation risk can be minimized by optimizing asthma medications and by identifying and treating modifiable risk factors. List the six modifiable risk factors identified in the GINA guidelines that show consistent high-quality evidence.

1. Click or tap here to enter text.
2. Click or tap here to enter text.
3. Click or tap here to enter text.
4. Click or tap here to enter text.
5. Click or tap here to enter text.
6. Click or tap here to enter text.

# **Non-Pharmacological Strategies and Interventions**

In addition to medications, other therapies and strategies may be considered when relevant, to assist in symptom control and risk reduction. List the examples the GINA guidelines provide.

1. Click or tap here to enter text.
2. Click or tap here to enter text.
3. Click or tap here to enter text.
4. Click or tap here to enter text.

# **Continue to the next page to apply this information to a case study.**

# **Case Study**

|  |  |  |  |
| --- | --- | --- | --- |
| **History of Present Illness:**  Haley, a 14-year-old girl with asthma, presents to the clinic with complaints of a persistent cough. She reports getting up 3-4 nights a week to use her albuterol inhaler, including the morning of the visit. She also reports coughing and experiencing shortness of breath daily when she runs in gym class or pet’s the neighbor’s cat. Haley is currently taking a SABA (short-acting beta-agonist) for relief of her asthma symptoms. Except for a cough, Haley has no other complaints. She is accompanied by her parents. | | | |
| **Past Medical History:** Asthma  **Allergies:** NDKA | **Family History:**   * Mom is 36 years-old with a history of asthma. * Dad is 38 years-old with hypertension and is a smoker.   **Social History:**   * Parents report a well-balanced diet with occasional fast food. * Haley has gym classes at school and enjoys playing basketball outside with her friends in the neighborhood until she coughs and needs her inhaler. * Her parent report that she is doing well in school. | **Review of Systems (Subjective Findings):**   * Respiratory (+) SOB, (+) Wheezing, (+) chest tightness, (+) cough, (-) hemoptysis, (-) pleuritic pain * All other systems negative | **Physical Exam (Objective Findings)**   * Vital Signs   + Temperature 98.2, Respiratory Rate 22, Pulse 118, Blood Pressure 108/64, Pulse Ox 92%   + Height: 56 inches Weight: 72 lbs. BMI: 16.1 * Skin   + (+) warm, (+) dry, (+) intact, (-) moist, (-) lesions * HEENT   + PERRLA, (-) nasal flaring, nasal polyps, (-) lymph node swelling * Neck   + (-) ROM, (-) JVD * Thorax   + (-) accessory muscle use (+) equal chest expansion (-) limited chest expansion * Lungs   + (+) diffuse expiratory wheezes bilaterally and occasional inspiratory * Heart   + (+) tachycardia with S1 and S2 regular rate and rhythm (-) murmurs, rubs, or gallops * Neurologic   + Cranial nerves intact |

1. Based on the table you created from your book above, how would you classify Haley’s asthma?

Click or tap here to enter text.

1. Based on the table you created using the GINA guidelines provided, what is the controller and preferred reliever Haley should be prescribed at today’s visit? (Provide general statement and not specific drug- the same as you listed in the table for this severity of asthma)

Click or tap here to enter text.

1. Now, looking in your textbook, what are some examples of inhaled corticosteroids or inhaled glucocorticoids? Your book lists six for you to provide here:
   1. Click or tap here to enter text.
   2. Click or tap here to enter text.
   3. Click or tap here to enter text.
   4. Click or tap here to enter text.
   5. Click or tap here to enter text.
   6. Click or tap here to enter text.
2. What is the drug classification of formoterol?

Click or tap here to enter text.

1. What is a specific drug you could prescribe today that would meet the drug classification from question 2? Your book provides two options in table 62.1.
   1. Click or tap here to enter text.
   2. Click or tap here to enter text.
2. Go to [Prescriber’s Digital Reference](https://www.pdr.net/) and identify the dose you would prescribe of the two drugs from Question 5 to fall into the “low dose” range as indicated by the low, medium, high dose table you completed above from the GINA guidelines.
   1. Click or tap here to enter text.
   2. Click or tap here to enter text.
3. Why is it important for Haley to have a LABA in addition to her SABA?

Click or tap here to enter text.

1. What education does Haley, and her parents need regarding when to take the medicine you will prescribe today versus the SABA she is already taking?

Click or tap here to enter text.

1. What are two environmental factors may be contributing to Haley’s asthma symptoms that were noted in the case study information?
   1. Click or tap here to enter text.
   2. Click or tap here to enter text.
2. What do the GINA guidelines say about “action plans”?

Click or tap here to enter text.

1. Do a web search for “asthma action plan”. Provide a link to an example of an asthma action plan you could either use or adapt in your own clinical practice.

Click or tap here to enter text.