| Name: |
|-------------------------|
| Max Behrend |
| Group: |
| 10B-3 |
| Basic Science Question: |
| What is an inhaler? |
| Report: |

Inhalers are medical devices used by people all across the world. They work by delivering a precise dosage of medication to a person's respiratory tract. They do this through a pressurized propellent. Inhalers are used to treat diseases like asthma, chronic obstructive pulmonary disease, and other issues affecting the respiratory tract. The medicine delivered through an inhaler will act to relax the muscles surrounding the airways. Breathing, which initially would be quite difficult, is now easier with the help of an inhaler.

Two common medications delivered via inhalers include Albuterol and Symbicort. Albuterol acts as a beta two agonist at adrenergic receptors. When bound to these receptors, the albuterol will cause bronchial smooth muscle to relax. Symbicort is a medication which is composed of two parts. Its two parts include budenoside and formoterol. Budenoside is a synthetic corticosteroid which will aid in preventing chest tightness and coughing with someone experiencing asthma or chronic obstructive pulmonary disease. Formoterol, like albuterol, is a beta two aonist which will act to relax bronchial smooth muscle and make breathing easier for someone.

References:

Prokopovich, P. "Tribology of Inhaler Devices and Components." *Inhaler Devices*, 2013, pp. 29–36., doi:10.1533/9780857098696.1.29.

Johnson DB, Merrell BJ, Bounds CG. Albuterol. [Updated 2020 Aug 10]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2020 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK482272/

Selroos O. A smarter way to manage asthma with a combination of a long-acting beta(2)-agonist and inhaled corticosteroid. *Ther Clin Risk Manag.* 2007;3(2):349-359. doi:10.2147/tcrm.2007.3.2.349