Childhood Asthma

Susan M. McKillop, MSNeD, BSN, RN, AE-C
Asthma Educator

Weill Cornell Medicine
Pediatric Asthma Program
Objectives

- Anatomy and Physiology
- Overview of asthma
- Asthma in NYC
- Symptoms
- Asthma management
How does your body use oxygen?

- Breathing uses both chemical and mechanical processes to bring oxygen to every cell of the body and to get rid of carbon dioxide.
- Our body needs oxygen to obtain energy to fuel all our living processes. Carbon dioxide is a waste product of that process.
- The respiratory system, with its conduction and respiratory zones, brings air from the environment to the lungs and facilitates gas exchange both in the lungs and within the cells.
g1. Gas exchange in humans

$O_2$ (oxygen)  $CO_2$ (carbon dioxide)

Lungs

Organs

Red blood cells
Asthma is a chronic inflammatory disease in which the airways become narrow - this makes it difficult for air to flow in and out of the lungs.
Burden of asthma in children

- More than **26 million** Americans have asthma (1)
  - **6.1 million** of those with asthma are children (under age 18)
- Asthma is the **third** leading cause of childhood hospitalization
- Asthma causes **millions of missed school** days every year - this can lead to a child falling behind in class
- In 2017, the NYC Environmental & Health Data Portal estimated that **over 11%** of children throughout New York City, between the ages of 0-13, have had a diagnosis of asthma (2)

(1) https://www.lung.org/lung-health-diseases/lung-disease-lookup/asthma/learn-about-asthma
(2) http://a816-dohbesp.nyc.gov/IndicatorPublic/VisualizationData.aspx?id=2392,4466a0,11,Summarize
Burden of asthma in NYC children

- Children diagnosed with asthma, between ages 0-13 (2017 data)
  - 158,000 children ~ 11.2% of children living in NYC

- Breakdown by borough
  - Bronx - 50,000 children
  - Brooklyn - 39,000 children
  - Manhattan - 24,000 children
  - Queens - 37,000 children
  - Staten Island - 8,000 children

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Asthma Symptoms

- Although asthma symptoms may look different from one person to another, here are the most common:
  - Wheezing
  - Cough
  - Shortness of breath
  - Chest tightness
Asthma Management

- It is important to visit your child’s healthcare professional regularly to keep asthma under good control (even if your child is feeling well)
- Managing your child’s triggers - avoiding irritants and allergens that make asthma worse *
- Taking asthma medications as prescribed by your child’s healthcare provider *
- Following your child’s asthma action plan *

* Please see our other videos on these topics
Contact Us

If you have questions about asthma, please reach out for more information:

- Email: PedsAsthma@med.cornell.edu
- Phone: 212-746-4508

Visit our website for links to more resources:
https://pediatrics.weill.cornell.edu/divisions-programs/general-academic-pediatrics/pediatric-asthma-program