

Human Body: Lymphatic System

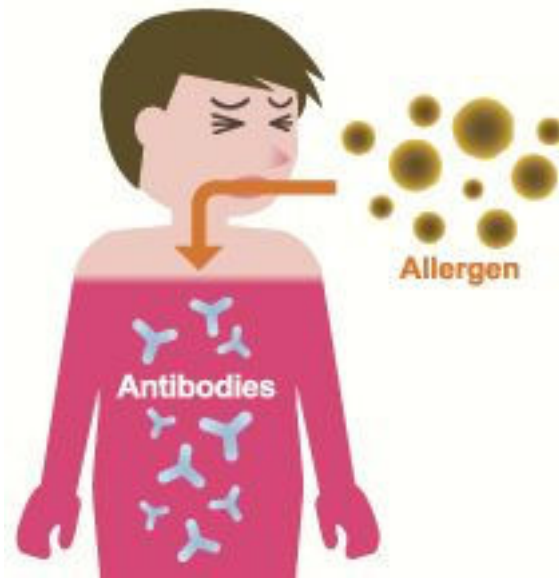
The allergic response

Allergies are an overreaction of the immune system to foreign substances. This type of response is known as an allergic response and can range from moderate to life-threatening. The steps involved in a typical allergic response are outlined below.



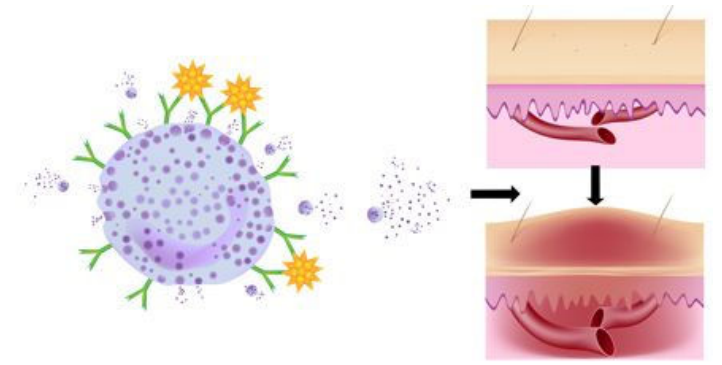
1st Exposure to an Allergen

The first time the body is exposed to an allergen, it is flooded with white blood cells, and the immune system starts producing antibodies to fight the response.



2nd Exposure to an Allergen

The second exposure to an allergen results in an increased production of antibodies.



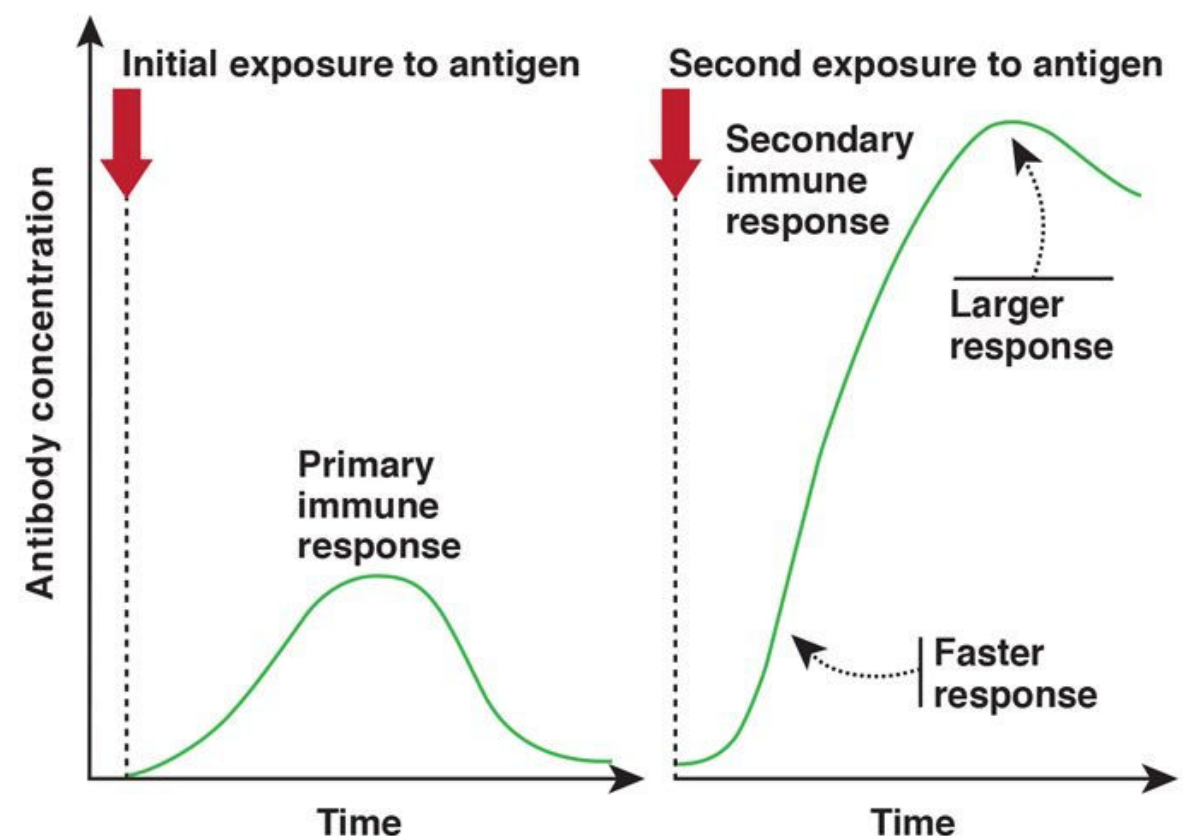
Histamines Are Released

White blood cells release chemicals, such as histamines, that result in an inflammatory response.

Levels of allergic reactions

The body can experience several levels of allergic reactions:

- Allergic rhinitis occurs when the body is exposed to allergens that irritate the lining of the nose and throat. Common allergens include pollen grains, dust mites, and pet dander, which can cause sneezing, coughing, and itchy, watery eyes.
- Food allergies are caused by an over-reactive immune response to certain foods, such as nuts and seafood. Symptoms of food allergies may occur as soon as the body is exposed to the food, or they may take several hours to develop. Skin rashes, swelling of the mouth and throat, vomiting, and diarrhea are just a few of the symptoms someone might experience.
- Anaphylaxis results from an extreme sensitivity to an allergen. This type of immune response involves the entire body. Massive amounts of histamines are released, causing a drop in blood pressure. This response can also cause airways to become restricted. Although this type of reaction is rare, it is potentially fatal.



The graph above illustrates the body's primary and secondary responses to exposures to a foreign substance. The body's response to a secondary exposure is faster and greater than to the first, whether the substance is a pathogen or an allergen.

Human Body: Lymphatic System

Questions:

Describe the steps of an allergic response.

Name some common allergens for each of the 3 levels of an allergic reaction.

Answer this question on your own:

What kinds of medications can be given to treat the different types of an allergic reaction? Why?