

Allergies are defined as a type of hypersensitivity disorder caused by an immune response to environment antigens, known allergens, which result in inflammation and tissue (Norris, 2020).

Allergic reactions follow a two-stage process: sensitization, where IgE antibodies bind to mast cells, followed by re-exposure and degranulation. This sequence releases inflammatory mediators like histamine and leukotrienes, causing allergic symptoms.

The clinical manifestations of allergies vary by the affected organ system and the severity of the immune response, ranging from localized irritation to life-threatening systemic reactions. These symptoms include but not limited to skin rashes, itching, and respiratory symptoms. However, Wilbur's symptoms do not seem to align with typical allergic reactions. His rash is flat and purple, which is not typical of an allergic rash, and it is neither itchy nor painful. His white coated tongue and frequent illnesses could suggest an immunocompromised state rather than an allergic reaction.

Based on his symptoms, Wilbur is likely not experiencing an allergic reaction, as he lacks typical signs such as itching, hives, swelling, or breathing difficulties. Instead, his persistent, non-painful purple rash, white tongue coating (likely oral thrush), and history of frequent illness suggest an underlying, chronic systemic issue, potentially an immunodeficiency or condition like HIV.

Allergic reactions are diagnosed primarily through detailed history, physical examination, and identifying IgE-mediated responses (Norris, 2020). Key testing methods include skin prick tests, serum-specific IgE blood tests, and patch tests. However, given Wilbur's symptoms, these tests may not be the most appropriate. His symptoms suggest a possible systemic condition, and further tests are needed.