

## — Cardiovascular Health

The circulatory system, also known as the cardiovascular system (CVS), is a vast network of organs and vessels that are responsible for the flow of blood, nutrients, oxygen, other gases, and hormones to and from cells. Without the circulatory system, the body would not be able to fight disease or maintain a stable internal environment like a proper temperature and pH, referred to as homeostasis. The cardiovascular system is made up of three independent systems that work together: the heart (cardiovascular), lungs (pulmonary) and arteries, veins, coronary and portal vessels (systemic).

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## Immune Deficiency

Immune system disorders occur when the immune system does not fight tumors or harmful substances as it should. The immune response may be overactive or underactive. Immunodeficiency disorders may affect any part of the immune system. Most commonly, these conditions occur when special white blood cells called T or B lymphocytes (or both) do not work as well as they should, or when your body doesn't produce enough antibodies. Inherited immunodeficiency disorders that affect B cells include; hypogammaglobulinemia, which usually leads to respiratory and gastrointestinal infections and Agammaglobulinemia, which results in severe infections early in life, and is often deadly. Inherited immunodeficiency disorders that affect T cells may cause repeated Candida (yeast) infections. Inherited combined immunodeficiency affects both T cells and B cells. It may be deadly within the first year of life if it isn't treated early.

People are said to be immunosuppressed when they have an immunodeficiency disorder due to medicines that weaken the immune system (such as corticosteroids). Immunosuppression is also a common side effect of chemotherapy given to treat cancer. Acquired immunodeficiency may be a complication of diseases such as HIV infection and malnutrition (especially if the person does not eat enough protein). Many cancers may also cause immunodeficiency. People who have had their spleen removed have an acquired immunodeficiency, and are at higher risk for infection by certain bacteria that the spleen would normally help fight. Patients with diabetes are also at higher risk for certain infections. As you get older, the immune system becomes less effective. Immune system tissues (especially lymphoid tissue such as the thymus) shrink, and the number and activity of white blood cells drop.

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LACTIC ACID, PLA...  
(mmol/L)

1.1

Range: 0.4-1.8

### LACTIC ACID, PLASMA

(mmol/L)

