### Cardiovascular System

* **Heart**  
    
  The [heart](http://biology.about.com/od/humananatomybiology/ss/heart_anatomy.htm) is the [organ](http://biology.about.com/od/organsystems/a/aa031706a.htm) that supplies blood and oxygen to all parts of the body. This amazing [muscle](http://biology.about.com/od/anatomy/a/aa022808a.htm) produces electrical impulses through a process called [cardiac conduction](http://biology.about.com/od/physiology/a/aa052104a.htm). These impulses cause the heart to contract and then relax, producing what is known as a heart beat. The beating of the heart drives the [cardiac cycle](http://biology.about.com/od/anatomy/ss/cardiac_cycle.htm)which pumps blood to [cells](http://biology.about.com/od/cellbiology/a/cells-facts.htm) and [tissues](http://biology.about.com/od/anatomy/a/aa121407a.htm) of the body.
* **Blood Vessels**  
    
  [Blood vessels](http://biology.about.com/od/humananatomybiology/ss/blood_vessels.htm) are intricate networks of hollow tubes that transport blood throughout the entire body. Blood travels from the heart via arteries to smaller arterioles, then to capillaries or sinusoids, to venules, to veins and back to the heart. Through the process of [microcirculation](http://biology.about.com/od/anatomy/ss/microcirculation.htm), substances such as oxygen, carbon dioxide, nutrients, and wastes are exchanged between the blood and the fluid that surrounds cells.
* **Blood**  
    
  The [blood](http://biology.about.com/od/humananatomybiology/a/blood.htm) delivers nutrients to cells and removes wastes that are produced during cellular processes, such as [cellular respiration](http://biology.about.com/od/cellularprocesses/a/cellrespiration.htm). Blood is composed of [red blood cells](http://biology.about.com/od/humananatomybiology/ss/red-blood-cells.htm), [white blood cells](http://biology.about.com/od/cellbiology/ss/white-blood-cell.htm), platelets, and plasma. Red blood cells contain enormous amounts of a [protein](http://biology.about.com/od/molecularbiology/ss/protein-structure.htm) called **hemoglobin**. This iron containing molecule binds oxygen as oxygen molecules enter blood vessels in the lungs and transport them to various parts of the body. After depositing oxygen to tissue and cells, red blood cells pick up carbon dioxide (CO2) for transportation to the [lungs](http://biology.about.com/od/anatomy/ss/the-lungs.htm) where CO2 is expelled from the body.

The lymphatic system is a component of the immune system and works closely

with the cardiovascular system. The lymphatic system is a vascular network of tubules and ducts that collect, filter, and return lymph to blood circulation. Lymph is a clear fluid that comes from blood plasma, which exits blood vessels at [capillary](http://biology.about.com/od/anatomy/ss/capillary.htm) beds. This fluid becomes the interstitial fluid that bathes tissues and helps to deliver nutrients and oxygen to [cells](http://biology.about.com/od/cellbiology/ss/animal_cells.htm) . In addition to returning lymph to circulation, [lymphatic structures](http://biology.about.com/od/organsystems/ss/lymphatic-aystem.htm) also filter blood of microorganisms, such as [bacteria](http://biology.about.com/od/cellanatomy/ss/prokaryotes.htm) and [viruses](http://biology.about.com/od/virology/ss/viruses.htm) . Lymphatic structures also remove cellular debris, [cancerous cells](http://biology.about.com/od/cellbiology/ss/normal-cells-cancer-cells.htm) , and waste from the blood. Once filtered, the blood is returned to the circulatory system.