**Lungs**

Oxygen enters lungs from the mouth/nose, goes through the trachea, into the bronchioles, and finally into the air sacs (alveoli) where blood vessels pick up the oxygen and carry it throughout the body.

Oxygen gas enters and Carbon dioxide gas exits



**Pancreas**

The pancreas is a glandular organ that produces the hormone **insulin**. Insulin helps regulate our blood sugar by converting glucose (a monosaccharide) into glycogen (a polysaccharide) for storage.

People who cannot produce enough insulin are diabetic, and therefore have to take insulin injections.



**Muscles**

Muscle cells contain proteins that help them to contract (tighten), which causes **movement**.

* **Skeletal Muscle** moves the bones
* **Smooth muscle** helps food move down the digestive tract
* **Cardiac muscle** makes up your heart (yes, your heart is a muscle!)





**T – Cells**

T-cells are a type of **white blood cell** that matures in the Thymus. When the body is exposed to a pathogen, these T-cells divide rapidly and secrete small proteins called cytokines that regulate or assist in the active immune response. T-cells are the specific cell that is attacked by the HIV virus.



**Blood Vessels (Veins, Arteries, Capillaries)**

**Blood vessels** form a tubular network throughout the body that allows **blood** to flow from the heart to every body cell and then back to the **heart**. The three types of blood vessels are **arteries, capillaries, and veins**. Blood contains water, blood cells, proteins, sugar, oxygen, etc. Oxygen is picked up at the lungs and the heart pumps it so that it can reach all cells of the body.



**Intestines**

The **intestines** are vital organs in the gastrointestinal tract. Their **functions** are to digest food and to enable the nutrients released from that food enter into the bloodstream. Our intestines consist of two major subdivisions: the small intestine and the large intestine. **Muscular** contractions called peristalsis help food move down the intestines. Nerve endings in the rectum let you know when it is time to poo.



**Brain**

The brain is the most complex organ in a vertebrate's body.  It is located in the head, usually close to the primary sensory organs for such [senses](http://en.wikipedia.org/wiki/Sense) as [**vision**](http://en.wikipedia.org/wiki/Visual_perception)**,**[**hearing**](http://en.wikipedia.org/wiki/Hearing)**,**[**balance**](http://en.wikipedia.org/wiki/Balance_%28ability%29)**,** [**taste**](http://en.wikipedia.org/wiki/Taste)**, and**[**smell**](http://en.wikipedia.org/wiki/Olfaction). The brain is made up of nerve cells, called **neurons**. The major function of the brain is to exert centralized control over the other organs of the body.



**Adrenal Glands**

The adrenal glands produce **hormones**, such as **adrenaline** (which helps your body react to stress), **cortisol** (which helps regulate metabolism and helps your body respond to stress), and **aldosterone** (which helps control blood pressure). Adrenaline helps your blood pump fast and allows you to have strength during times of stress (for example, being able to lift a car to save the person you love).

**Hormones** - are used to communicate between organs and tissues to regulate physiological and behavioral activities, such as digestion,metabolism, respiration, tissue function, sensory perception, sleep, excretion, lactation, stress, growth and development, movement,reproduction, and mood.



**Ovaries and Testes**

Ovaries and Testes are the reproductive glands. Ovaries produce the female gametes, eggs, while testes produce the male gametes, sperm. These organs allow for reproduction and passing on of genes to the next generation.



**Stomach**

Ridges of muscle tissue called rugae line the stomach. The stomach muscles contract periodically, churning food to enhance **digestion**. The pyloric sphincter is a **muscular** valve that opens to allow food to pass from the stomach to the small intestine. The stomach contains enzymes which help break down foods. For example, the proteinase enzymes break down proteins into amino acid components.

The stomach also contains the HCl (Hydrochloric Acid) which also aids in breaking down food into smaller pieces.



**Kidneys**

Kidneys are the organs that help **filter** waste products from the **blood**. They also help maintain homeostasis by regulating blood pressure, electrolyte balance, and red blood cell production in the body. The kidneys remove waste products from metabolism such as urea, uric acid, and creatinine by producing and secreting urine. Urine then travels to the bladder and is excreted through the urethra.

Kidneys are located towards the back of your body. If you get a UTI (urinary tract infection) and also have lower back pain, that means the infection has spread to your kidneys – not good.



**Skin**

Your **epidermis** is the top part of your skin, and your skin is your body's **largest** and **fastest-growing** organ. Skin is your body's coat. It protects you. It helps you stay warm when it's cold, and cool when it's hot. Your skin keeps all your insides in, from your heart and lungs to your blood and muscles. And unless it's cut or damaged, **it keeps stuff out**, including germs and water. (It is your first line of defense against pathogens) You also feel things through the nerves in your skin.

Doctors who are experts in caring for skin are called dermatologists. Derma is the Greek word for skin. Dermatologists treat just about everything that can happen to skin, including rashes, dry skin, acne, and skin cancer.

