

# Heart Structure and Basic Circulation

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- The right side of the heart receives blood from the systemic veins.
- Oxygen-poor blood enters the **right atrium**.
- The left side of the heart receives blood from the **pulmonary veins**.
- Oxygen-rich blood enters the left atrium.
- Blood in the atria enters the ventricles through the **atrioventricular valves**.
  - The AV valves are held closed by the chordae tendinae.
  - Incompetent valves may “regurgitate” and allow blood to flow backwards.
  - Bacteria from gingivitis can grow on these valves.
- Blood exits the ventricles through the **semilunar valves**.
- The right ventricle pumps oxygen-poor blood out the **pulmonary artery**.
- The left ventricle pumps oxygen-rich blood out the **aorta**.
- Valves in the heart prevent backflow. If a valve is not working properly, the heart has to work harder to compensate and can weaken over time.

## The AORTA has many branches:

- The **coronary** arteries deliver oxygen-rich blood to the heart muscle.
- The **Brachiocephalic** artery delivers blood to the right arm and the right side of the brain.
- The **left common carotid** artery delivers blood to the left side of the brain.
- The **left subclavian** artery delivers blood to the left arm.

Beneath the diaphragm the aorta is called the **ABDOMINAL AORTA**. It too has many branches:

- The celiac trunk delivers blood to the liver, stomach and spleen.
- The superior mesenteric artery delivers blood to the small intestine and part of the large intestine.
- The renal arteries deliver blood to the kidneys.
- The gonadal artery delivers blood to the ovaries or the testes.
- The inferior mesenteric artery delivers blood to the large intestine.

The abdominal aorta branches at the bottom of the torso to form the **COMMON ILIAC** arteries.

- The internal iliac arteries deliver blood to the pelvic organs.
- The external iliac arteries deliver blood to the hips and then is called the
- Femoral arteries which deliver blood to the upper legs, and then is called

Blood drains from all these organs into veins which return to the right side of the heart.