YOUR BODY AND EXERCISE
Regular physical activity is important for health, longevity, and disease prevention.\(^1\) There are various types of exercise that can help target specific parts of the body or are correlated with specific health benefits.

**Here are four different types of exercise:**\(^2\)

- **Strength or resistance training**
  Improves muscle and bone strength by increasing muscle tissue mass and the number of mitochondria that create energy in the body.

- **Flexibility exercise**
  Improves the range of motion of joints and muscles for enhanced natural movement, posture, and breathing.

- **Cardiovascular or endurance exercise**
  Improves blood circulation, which determines how well the body delivers and utilizes oxygen, and thereby improves endurance and stamina.

- **Balance and coordination exercise**
  Improves the body’s ability to maintain equilibrium during daily activities.
Regardless of the type of exercise you choose, your body goes through a series of physiological events. This reaction explains the positive and (what feel like) negative effects of exercise, like soreness and muscle cramping.³

**Muscles**

Energy for muscle contraction comes from glucose, which is stored as glycogen. A limited supply of adenosine triphosphate (ATP), or glucose, can be used for quick energy. When the supply is exhausted, more oxygen is needed to create additional ATP for energy. Oxygen is delivered to exhausted muscles through blood, which is pumped by the heart.

If muscles don’t get enough oxygen, lactic acid forms and then builds. This leads you to feel an immediate, burning muscle sensation during activity. Lactic acid should drain out within 60 minutes following a workout. Any delayed-onset soreness that you may experience is usually from changes occurring in the muscles, as they grow and strengthen.
**Lungs**

In order to provide your body with the increased oxygen levels needed to sustain exercise, your breath gets faster and heavier.

As breathing rate increases, the muscles around your lungs work up to maximum capacity until you reach your maximal oxygen consumption (VO2 max). The fitter you are, the higher your VO2 max will be.
Diaphragm

This muscle separates the chest from the abdomen and is drawn upward and downward with every breath.

Heavy breathing during exercise can tire the diaphragm and cause spasms. With deep breathing and stretching, you may be able to avoid and ease this discomfort during exercise. Improved posture may also help ward off these spasms.
Heart

Heart rate increases during exercise in order to pump more blood, carrying increased loads of oxygen throughout the body. Regular exercise strengthens your cardiovascular system. The more efficient your heart becomes at this process, the harder and longer you can sustain physical activity. With exercise, you have the potential to lower your resting heart rate and reduce your blood pressure.
Stomach & Intestines

While you're exercising, your body is busy pumping extra blood to feed your working muscles.

This leaves other systems in your body at lower priority. Without your digestive system getting the proper attention it needs, you may be left with some form of upset digestion. Eating the correct foods prior to exercising can help alleviate this problem.
Brain

Increased blood flow driven by exercise can directly benefit the brain. With increased blood flow, your brain cells are reawakened, allowing for heightened alertness and focus during and after exercise. Increased oxygen in the brain promotes growth of new brain cells.

During exercise, the brain releases chemicals called endorphins, adrenaline, serotonin, and dopamine – chemicals that work together to boost your mood and trigger what many call a “runner’s high.”
Kidneys

The kidneys’ blood-filtering duties are affected by exercise. Depending on the intensity of exercise, the level of protein filtered into the urine changes and water reabsorption needs change as your body strives to stay hydrated.
Skin

Heat is generated when you exercise your muscles, causing your body temperature to rise. In response, your blood vessels dilate and increase blood flow to the skin. Evaporation of sweat from the skin helps your body cool down and regulate its temperature.
**FOOTNOTES**

1| Physical Activity and Health

2| 4 Types of Exercise
   4 Types of Exercise. (n.d.).
   Retrieved from https://go4life.nia.nih.gov/4-types-exercise

3| This Is What Happens to Your Body When You Exercise
   Klein, S. (2013, September 4). This Is What Happens To Your Body When You Exercise.