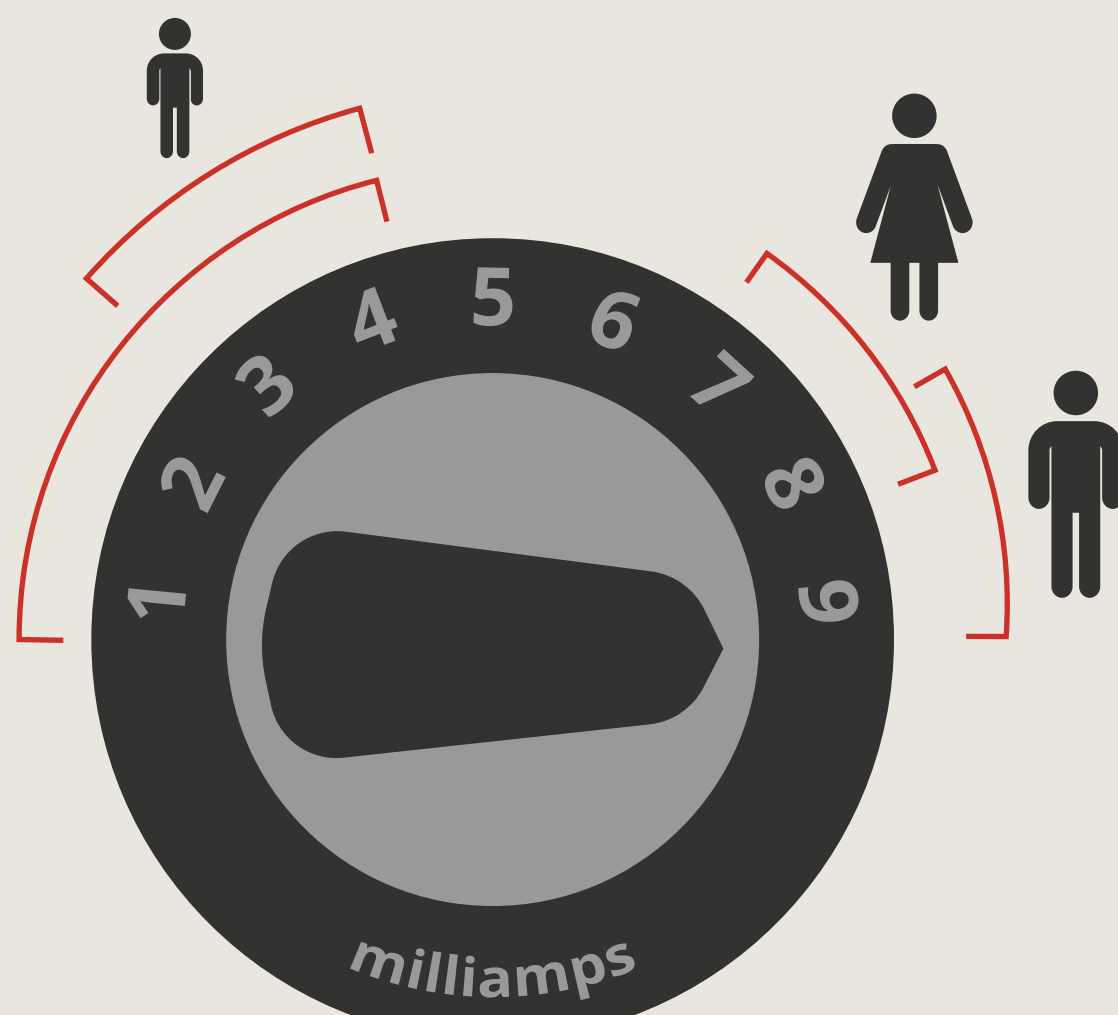


Factors of Electrical Burns

Current Strength

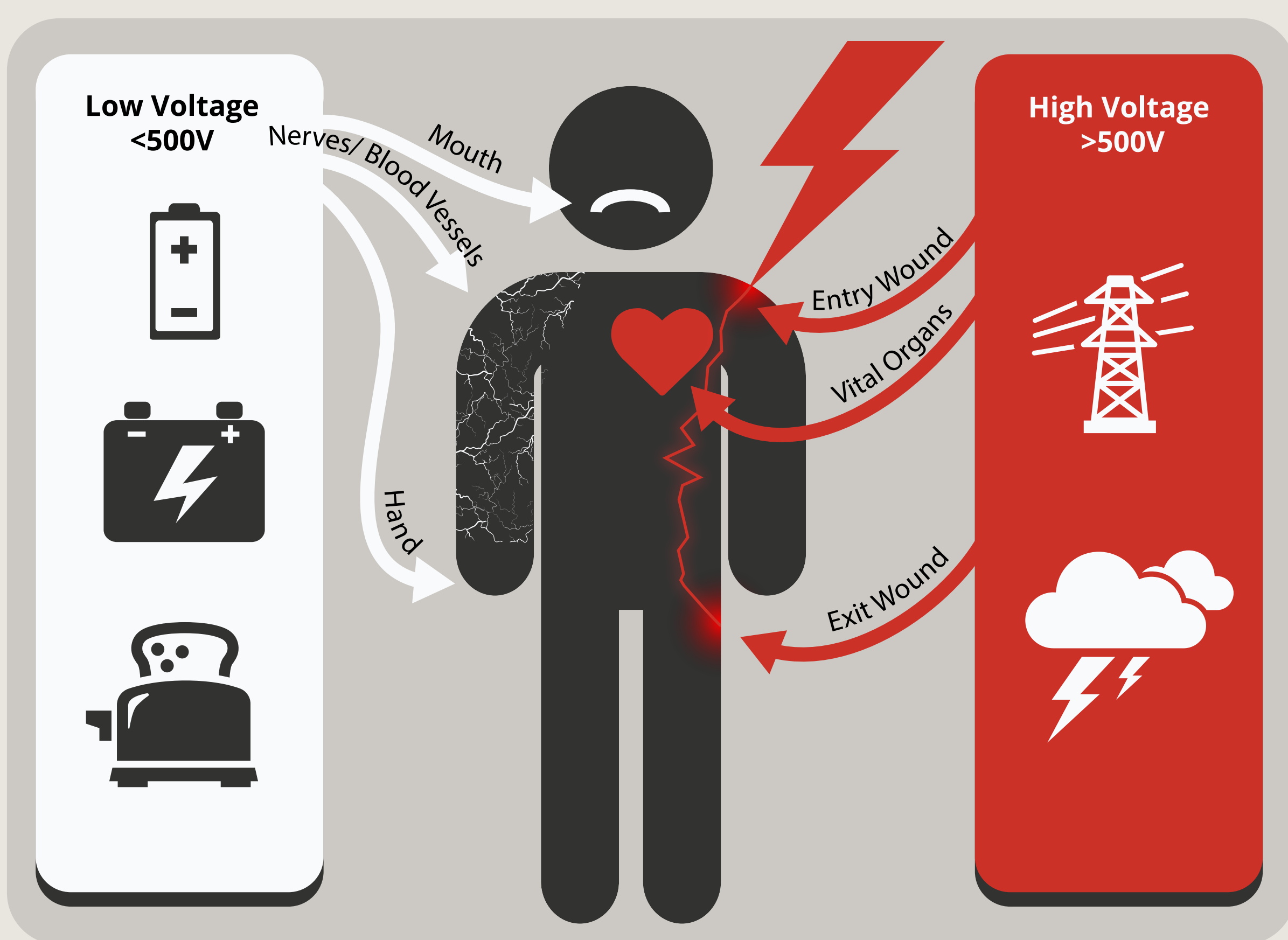
If **current strength** exceeds **let-go current** it causes muscle tetany (involuntary contraction of a muscle).



Let-go currents for men, women, and children. 1-4 milliamps causes a tingling sensation.

Voltage

Voltage can range from a 1.5V AAA Battery to 100MV (100,000,000 V) lightning. Low and High voltages commonly affect different areas of the body.



Resistance

Conductors:

Substances composed of atoms with weak bonds between nuclei and outer electrons. These are conductors in the body (pathways of least resistance):



Blood Vessels



Muscle



Nerves

Insulators:

Substances composed of atoms with strong bonds between nuclei and outer electrons. These are insulators in the body (pathways of most resistance):



Dermis



Bone



Fat

Circuit Types

Direct Current

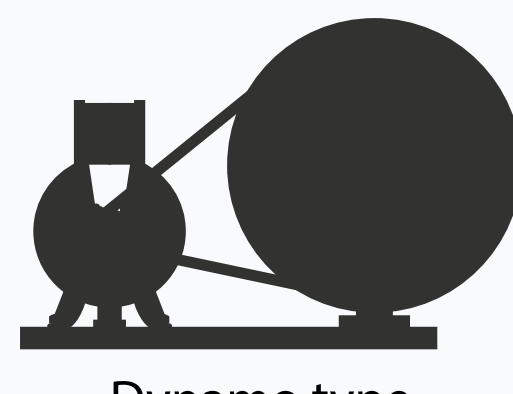
Flows in 1 direction with 0 frequency and a constant voltage.



Batteries



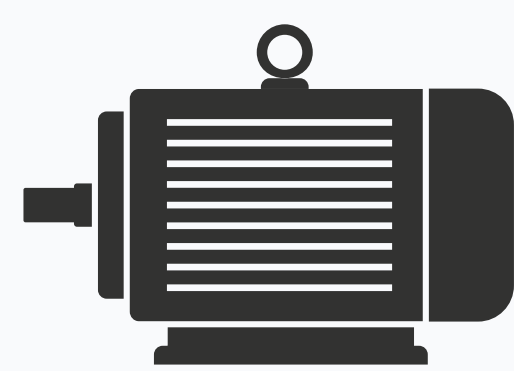
Solar Cells



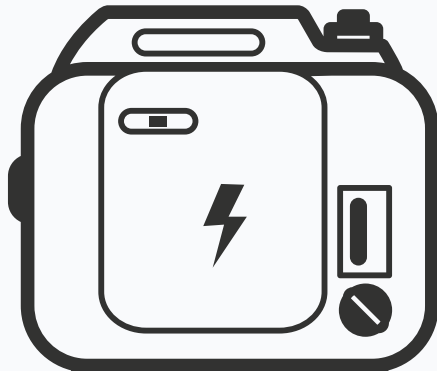
Dynamo type electrical machines

Alternating Current

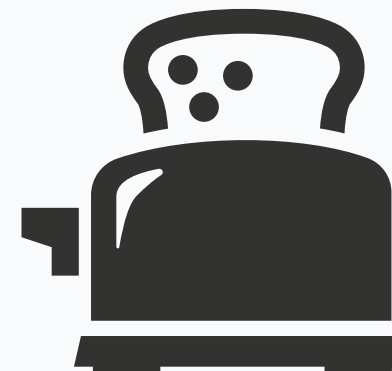
Changes direction in rhythmic fashion. The rhythm is dependent on current frequency. Current constantly moves between maximum high and maximum low voltage levels. Current changes direction when voltage passes through 0.



Electric Motors



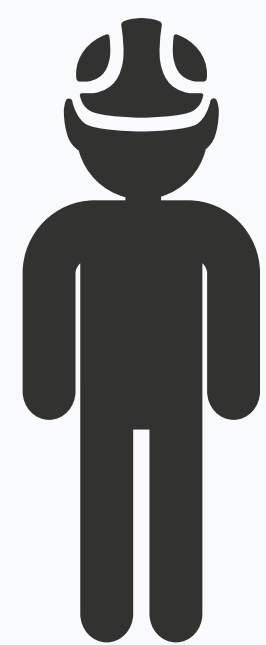
Generators



Household Electricity

Most Common Dangers

Work Related Accidents



Work related accidents account for

60%

of electrical burns requiring admission to a burn center

Most common in **MEN** ages **20-60**

Professions at higher risk



Cable Repair



Construction



Electric Repair

Children

Oral Electrical Burns are a specific type of low-voltage burn caused by biting on or putting an electrical cord in the mouth.



7 children treated in emergency rooms for oral electric burns every day

