

Effects of Electrical Current on the Human Body

<i>Current</i>	<i>Reaction</i>
Below 1 mA	Not perceptible
1 mA	Faint tingle
5 mA	Slight shock (Not painful)
6-25 mA	Painful shock, loss of muscle control
9-30 mA	Individual cannot let go
50-150 mA	Respiratory arrest
1,000-4,300 ma	Rhythmic pumping Action of heart ceases
10,000 ma	Cardiac arrest-burns

The effects depend upon the following:

- The amount of current
- The path of the current
- The length of time the body remains in contact with the circuit
- The frequency of the current

Muscular contractions “freeze” the body

- when the amount of current flowing through the body reaches level at which person cannot let go
- this increases length of exposure

Current flow causes blisters, which

- reduces surface resistance to current flow,
- increases current flow

Help for a Victim “Frozen” on a Conductor

- Shut off circuit immediately and call for help.
- Use non-conducting materials to push or pull the victim away from contact with energized conductor
- be sure not to contact victim with your bare hands or any conductive material.