Safety precautions and first aid

Do not touch live electrical parts. Electric shock can be avoided. Follow the recommended practices listed below. Faulty installation, improper grounding, and incorrect operation and maintenance of electrical equipment are always sources of danger.

1. Ground all electrical equipment and the work piece. Prevent accidental electrical shocks. Connect power source, control cabinets, and work piece to an approved electrical ground. The work lead is not a ground lead. It is used to complete the welding circuit. A separate connection is required to ground the work (illustrated on p. 5); or the work lead terminal on the power source may be connected to ground. Do not mistake the work lead for a ground connection.
2. Use the correct cable size. Sustained overloading will cause cable failure and result in possible electrical shock or fire hazard. Work cable should be the same rating as the torch cable.
3. Make sure all electrical connections are tight, clean, and dry. Poor electrical connections can heat up, and even melt. They can also cause bad welds and produce dangerous arcs and sparks. Do not allow water, grease, or dirt to accumulate on plugs, sockets, or electrical units.
4. Keep dry. Moisture and water can conduct electricity. To prevent shock, it is advisable to keep work areas, equipment, and clothing dry at all times. Fix water leaks immediately. Make sure that you are well insulated. Wear dry gloves, rubber-soled shoes, or stand on a dry board or platform.
5. Keep cables and connectors in good condition. Improper or worn electrical connections can cause short circuits and can increase the chance of an electrical shock. Do not use worn, damaged, or bare cables.
6. Avoid open-circuit voltage. Open-circuit voltage can cause electric shock. When several welders are working with arcs of different polarities, or when using multiple alternating-current machines, the open-circuit voltages can be additive. The added voltages increase the severity of the shock hazard.
7. Wear insulated gloves when adjusting equipment. Power should be shut off and insulated gloves should be worn when making any equipment adjustment to assure shock protection.
8. Never use metallic pencils or rulers, or wear rings or metal watchbands when working with electrical equipment. This rule is very easy to forget, especially when you are showing some electrical part pointing with metallic pencil.

9. If it is safe to do so, work with only one hand, keeping the other hand at your side or in your pocket, away from all conductive material. This precaution reduces the likelihood of accidents that result in current passing through the chest cavity.

If you ever read about current passing through human body you will know, so remember – work with one hand only.

10. If an individual comes in contact with a live electrical conductor, do not touch the equipment, cord or person. Disconnect the power source from the circuit breaker or pull out the plug using a leather belt.

Tricky situation, and you must be very calm in order not to make the situation even worse.

11. Equipment producing a “tingle” should be disconnected and reported promptly for repair.
12. Do not rely on grounding to mask a defective circuit nor attempt to correct a fault by insertion of another fuse or breaker, particularly one of larger capacity.
13. ***Drain capacitors*** before working near them and keep the short circuit on the terminals during the work to prevent electrical shock.
14. Never touch another person’s equipment or electrical control devices unless instructed to do so.
15. Enclose all electric contacts and conductors so that no one can accidentally come into contact with them.

16. Never handle electrical equipment when hands, feet, or body are wet or perspiring, or when standing on a wet floor.
17. When it is necessary to touch electrical equipment (*for example, when checking for overheated motors*), use the back of the hand. Thus, if accidental shock were to cause muscular contraction, you would not "***freeze***" to the conductor.
18. Be aware that interlocks on equipment disconnect the high voltage source when a cabinet door is open but power for control circuits may remain on.
19. De-energize open experimental circuits and equipment to be left unattended.
20. Do not wear loose clothing or ties near electrical equipment.

Work near electricity

- Do a risk assessment for the work you are planning, and make sure this covers electrical hazards.
- Learn how to recognize electrical wires. These may be overhead power lines, electrical wiring in a workplace, or cables buried under the ground.
- Get an up-to-date map of the services in the area and use it.
- Look for electrical wires, cables or equipment near where you are going to work and check for signs warning of dangers from electricity, or any other hazard. Remember to look up, down, and around you.
- If you will be digging or disturbing the earth or cutting into surfaces, use a cable locator to find buried services and permanently mark the position of services you do find.
- Work away from electrical wiring wherever possible. If you have to work near electrical wiring or equipment, ask for the electrical supply to be turned off. Make sure the power is off, and cannot be turned on again without you agreeing.
- If the electrical supply cannot be turned off, consult a competent person who should be able to advise you on the best way to proceed.
- Identify where it is safe to work. Put up danger notices where there are still live electrical circuits, and warn your co-workers where it is safe to work and where it is not safe. Remember to remove notices at the end of the work.

Excavation and underground services

What you need to know

When underground cables are damaged, people can be killed and injured by electric shock, electrical arcs (causing an explosion), and flames. This often results in severe burns to hands, face and body, even if protective clothing is being worn.

Damage can be caused when a cable is:

- cut through by a sharp object such as the point of a tool; or
- crushed by a heavy object or powerful machine.

Cables that have been previously damaged but left unreported and unrepaired can cause incidents.

The HSE booklet "Avoiding danger from underground services" gives guidance on how you can manage the risks of digging near underground cables.

The Electricity Networks Association (ENA) publication "Watch It! When digging in the vicinity of underground electric cables also provides advice".

What you need to do

If you are digging or disturbing the earth you should take care to avoid damaging underground services. Underground electrical cables can be particularly hazardous because they often look like pipes and it is impossible to tell if they are live just by looking at them.

Damage to underground electrical cables can cause fatal or severe injury and the law says you must take precautions to avoid danger.

Excavation work should be properly managed to control risks, including:

- Planning the work
- Using cable plans
- Cable locating devices
- Safe digging practices

Planning the work

Most service cables belong to a Distribution Network Operator (DNO). However, some cables belong to other organizations such as. the highways authority, Ministry of Defense or Network Rail.

You should check nearby for equipment owned by the organizations listed above, and if you suspect there are underground cables , ask them for plans to confirm their location. If underground cables are nearby you may need to ask someone from the organization to come and accurately locate them for you.

If you are excavating near your own cables , then someone who is experienced in underground cable detection techniques should help you locate them using suitable equipment.

You may need to make underground cables dead for the work to proceed safely. Be aware that electricity companies are required to give five days' notice to customers whose supply is to be disconnected.

Careful planning and risk assessments are essential before the work starts. Risk assessments should consider how the work is to be carried out, ensuring local circumstances are taken into account.

Using cable plans

Plans or other suitable information about all buried services in the area should be obtained and reviewed before any excavation work starts.

If the excavation work is an emergency, and plans and other information cannot be found, the work should be carried out as though there are live buried services in the area.

Symbols on electricity cable plans may vary between utilities and advice should be sought from the issuing office. Remember that high-voltage cables may be shown on separate plans from low-voltage cables.

Plans give only an indication of the location, and number of underground services at a particular site. It is essential that a competent person traces cables using suitable locating devices.

Cable locating devices

Before work begins, underground cables must be located, identified and clearly marked.

The position of the cable in or near the proposed work area should be pinpointed as accurately as possible by means of a locating device, using plans, and other information as a guide to the possible location of services and to help interpret the signal.

Remember: Locators should be used frequently and repeatedly during the course of the work.

People who use a locator should have received thorough training in its use and limitations. Locating devices should always be used in accordance with the manufacturer's instructions, regularly checked and maintained in good working order.

Safe digging practices

Excavation work should be carried out carefully and follow recognised safe digging practices.

Once a locating device has been used to determine cable positions and routes, excavation may take place, with trial holes dug using suitable hand tools as necessary to confirm this.

Excavate alongside the service rather than directly above it. Final exposure of the service by horizontal digging is recommended, as the force applied to hand tools can be controlled more effectively.

Insulated tools should be used when hand digging near electric cables.

Overhead power lines

What you need to know

Accidental contact with live overhead power lines kills people and causes many serious injuries every year. People are also harmed when a person or object gets too close to a line and a flashover occurs. Work involving high vehicles or long equipment is particularly high risk, such as;

In Construction – Lorry mounted cranes , Mobile Elevated Work Platforms, scaffold poles, tipper vehicles, cranes, ladders;

In Agriculture – combines, sprayer booms, materials handlers, tipper vehicles, ladders, irrigation pipes, polytonal; Remember:

- going close to a live overhead line can result in a flashover that may kill. Touching a power line is not necessary for danger;
- voltages lower than 230 volts can kill and injure people;
- do not mistake overhead power lines on wooden poles for telephone wires; and
- electricity can bypass wood, plastic or rubber, if it is damp or dirty, and cause fatal shocks. Don't rely on gloves or rubber boots to protect you.

You can download a free leaflet called "Safe working near overhead power lines in agriculture".

The guidance note "Avoiding danger from overhead power lines" describes how to work safely near overhead power lines in a range of industries.

The Electricity Networks Association (ENA) publications:

- Safety Information for Farmers and Agricultural Contractors
- Watch It! In the Vicinity of Overhead Lines
- Safety Information for Farmers Utilizing Poly tunnels
- Safe tree working in proximity to overhead electric lines ENA Engineering Recommendation G55/1
- The ENA also provide advice on what to do if machinery comes into contact with an overhead power line.

What you need to do

Plan and manage work near electric overhead power lines so that risks from accidental contact or close proximity to the lines are adequately controlled.

Safety precautions will depend on the nature of the work and will be essential even when work near the line is of short duration.

Safety can be achieved by a combination of measures:

- Planning and preparation
- Eliminating the danger
- Controlling the access
- Controlling the work

Planning and preparation

The first step is to find out whether there is any overhead power line within or immediately next to the work area, or across any access route.

Information will be available from the local electricity supplier or Distribution Network Operator (DNO). If any overhead lines are found, you should assume that they are live unless proved otherwise by their owners.

If there are any overhead lines over the work area, near the site boundaries, or over access roads to the work area, consult the owners of the lines so that the proposed plan of work can be discussed.

Allow sufficient time for lines to be diverted or made dead, or for other precautions to be taken as described below.

Eliminating the danger

You can eliminate the danger by:

- **Avoidance** – find out if the work really has to be carried out under or near overhead lines, and can't be done somewhere else. Make sure materials (such as bales or spoil) are not placed near overhead lines, and temporary structures (such as polytunnels) are erected outside safe clearance distances;

- **Diversion** – arrange for overhead lines to be diverted away from the work area; or Isolation – arrange for lines to be made dead while the work is being done.

In some cases you may need to use a suitable combination of these measures, particularly where overhead lines pass over permanent work areas.

If the danger cannot be eliminated, you should manage the risk by controlling access to, and work beneath, overhead power lines.

Controlling the access

Where there is no scheduled work or requirement for access under the lines, barriers should be erected at the correct clearance distance away from the line to prevent close approach. The safe clearance distance should be ascertained from the Distribution Network Operator (DNO). HSE guidance documents Avoidance of danger from overhead electric power lines and Electricity at Work: Forestry and Arboriculture also provide advice on safe clearance distances and how barriers should be constructed. Where there is a requirement to pass beneath the lines, defined passageways should be made.

The danger area should be made as small as possible by restricting the width of the passageway to the minimum needed for the safe crossing of plant. The passageway should cross the route of the overhead line at right angles if possible.

Controlling the work

If work beneath live overhead power lines cannot be avoided, barriers, goal posts and warning notices should be provided. Where field work is taking place it may be impractical to erect barriers and goal posts around the overhead lines - these are more appropriate for use at gateways, on tracks and at access points to farm yards.

The following precautions may also be needed to manage the risk:

- **Clearance** – the safe clearance required beneath the overhead lines should be found by contacting the Distribution Network Operator (DNO);
- **Exclusion** – vehicles, plant, machinery, equipment, or materials that could reach beyond the safe clearance distance should not be taken near the line;
- **Modifications** – Vehicles such as cranes, excavators and tele-handlers should be modified by the addition of suitable physical restraints so that they cannot reach beyond the safe clearance distances, measures should be put in place to ensure these restraints are effective and cannot be altered or tampered with;
- **Maintenance** – operators of high machinery should be instructed not carry out any work on top of the machinery near overhead power lines;
- **Supervision** – access for plant and materials and the working of plant should be under the direct supervision of a suitable person appointed to ensure that safety precautions are observed.

What to do if you come into contact with an OHPL

- If part of a vehicle or load is in contact with an OHPL, you should remain in the cab and inform the Distribution Network Operator (DNO) immediately (stick the number in a visible place in the cab and keep it on your mobile phone).
- Warn others to stay away.

- Try to drive clear. If this is not possible, and you need to leave the vehicle to escape fire, JUMP CLEAR – do not dismount by climbing down the steps.
- Never try to disentangle equipment until the owner of the line has confirmed that it has been de-energized and made safe.

WARNING: Contact with an overhead power line may cause the power to 'trip out' temporarily and it may be re-energized automatically, without warning.

Your local Distribution Network Operator (DNO) can generally supply stickers describing emergency procedures and containing contact numbers that can be stuck in the cabs of vehicles likely to be used near overhead power lines.

The leaflet called Safe working near overhead power lines in agriculture and the Electricity Networks Association (ENA) publications Safety Information for Farmers and Agricultural Contractors and Watch It! In the Vicinity of Overhead Lines provide advice on what to do if machinery or equipment comes into contact with an overhead power line.

Work using electrically powered equipment

You should make sure that electrical equipment used for work is safe. Here are a list of actions that should be taken to ensure this is so:

1. Perform a risk assessment to identify the hazards, the risks arising from those hazards, and the control measures you should use.
2. Check that the electrical equipment is suitable for the work and way in which it is going to be used.
3. Check that the electrical equipment is in good condition. The HSE booklet ‘Maintaining portable and transportable electrical equipment’ will help you do this.
4. Check that the equipment is suitable for the electrical supply with which it is going to be used, and the electrical supply is safe.
5. It is often beneficial to use a Residual Current Device (RCD) between the electrical supply and the equipment.
6. Make sure that the user of the equipment is trained to use it safely and can keep others safe.
7. Make sure the user knows which personal protective equipment to wear, how to use it, and make sure they do.

Check that the electrical equipment is suitable

- The equipment should be physically capable of doing the job, and designed and constructed so that mechanical and electrical stresses do not cause the equipment to become unsafe.
- If the environment is damp you may choose to use battery or air powered equipment, or equipment that operates at a reduced voltage such as that supplied by a transformer with an output that is centre tapped to earth (this halves the voltage between a live wire and earth). These are used in the construction industry and are readily available from hire shops.
- If the environment is conductive with restricted movement (e.g. inside a metal tank) additional precautions are necessary. BS7671 'Requirements for Electrical Installations', IEE Wiring Regulations, Seventeenth edition, Section 706, gives guidance on this.
- If there is the chance that there is an explosive atmosphere (containing flammable aerosols, vapours, gases or dusts) nearby you should ensure the work can be carried out safely and that the right equipment is chosen.

Check that the electrical equipment is in good condition

Many faults with work equipment can be found during a simple visual inspection:

- Switch off and unplug the equipment before you start any checks.
- Check that the plug is correctly wired (but only if you are competent to do so).
- Ensure the fuse is correctly rated by checking the equipment rating plate or instruction book.
- Check that the plug is not damaged and that the cable is properly secured with no internal wires visible.
- Check the electrical cable is not damaged and has not been repaired with insulating tape or an unsuitable connector. Damaged cable should be replaced with a new cable by a competent person.
- Check that the outer cover of the equipment is not damaged in a way that will give rise to electrical or mechanical hazards.
- Check for burn marks or staining that suggests the equipment is overheating.
- Position any trailing wires so that they are not a trip hazard and are less likely to get damaged.

If you are concerned about the safety of the equipment you should stop it from being used and ask a competent person to undertake a more thorough check.

Additional regular inspections may be required where a risk assessment indicates this is necessary (such as where equipment is used in a harsh environment). These inspections should be performed by a competent person using suitable equipment, and often enough to ensure equipment does not become unsafe between the inspections.

The table below gives a list of suggested initial inspection intervals for different types of equipment. The combined inspection and test could be a Portable Appliance Test (PAT), or a detailed test with a more sophisticated instrument. You should make sure that the person carrying out the tests is trained and competent to do so. See the guidance booklet Maintaining portable and transportable electrical equipment for more information.

You may need to change how often inspections are being carried out if there are indications that equipment may become unsafe before the next inspection.

Type of business	**User checks**	**Formal visual inspection**	**Combined inspection and test**
Equipment hire	N/A	Before issue/after return	Before issue
Construction (see Electrical safety on construction sites for more detail)	110 V – Weekly 230 V mains – Daily/every shift	110 V – Monthly 230 V – weekly	110 V – Before first use on site then 3 monthly 230 V mains – Before first use on site then monthly
Light industrial	Yes	Before initial use, then 6 monthly	6 months to 1 year
Heavy industrial/high risk of equipment damage	Daily	Weekly	6 months to 1 year
Office information technology eg desktop computers,	No	1 to 2 years	None if double-insulated, otherwise up to 5 years

photocopiers, fax machines			
Double insulated equipment not hand-held, eg fans,table lamps	No	2 to 3 years	No
Hand-held double insulated (Class II) equipment, eg some floor cleaners, kitchen equipment and irons	Yes	6 months to 1 year	No
Earthed (Class I) equipment, eg electric kettles, some floor cleaners	Yes	6 months to 1 year	1 to 2 years
Equipment used by the public, eg in hotels	By member of staff	3 months	1 year
Cables and plugs, extension leads	Yes	1 year	2 years

Check that the electrical equipment is suitable for the electrical supply

Make sure that the electrical equipment you are intending to use is suitable for the electrical supply to which you are connecting it. Check the voltage is correct and that the supply can deliver the current required by the equipment (the power requirements of the equipment will be shown on its rating plate).

Check the electrical supply is safe to use

You should be sure that the electrical supply is safe to use. Regular tests performed by a competent person, using suitable equipment are a good way of reducing risks. Where there is evidence that the supply may not be safe, such as damaged equipment or wiring, the supply should not be used until work has been done to correct this. Some simple user checks can be carried out on electrical socket outlets using an electrical socket tester, but it is essential that the correct type of tester is used. If any doubt remains regarding the safety of the electrical supply, a competent person should be consulted.

Use a Residual Current Device (RCD)

A Residual Current Device (RCD) can reduce the likelihood of an electrical injury but a shock can still cause very serious or fatal injuries, so an RCD should only be used as a secondary means of reducing the risk of people being injured by electricity. RCD's are not designed to prevent the ignition of an explosive atmosphere and should not be used for this purpose.

The best place for an RCD is built into the main switchboard, as this means that the electrical supply is permanently protected. If this is not possible, an electrical socket outlet incorporating an RCD, or a plug in RCD adaptor, can also provide additional safety.

If an electrical socket outlet incorporating an RCD, or a plug in RCD adaptor is used it should be tested, by the user, prior to use by operating the Test button. Faulty RCDs should not be used and either removed for use or labelled as faulty.

An RCD detects some, but not all, faults in the electrical system and rapidly switches off the supply, reducing the potential for injury caused by a common type of electric shock. To reduce the likelihood of injury to people the RCD should have a tripping current of not more than 30 milliamps (mA). RCDs with a higher tripping current are used to protect against fire.

Remember:

An RCD is a valuable safety device, never bypass it; if the RCD trips, it is a sign there is a fault. Check the system before using it again; if the RCD trips frequently and no fault can be found in the system, consult the manufacturer of the RCD; the RCD has a test button to check that its mechanism is free and functioning. Use this regularly.

If lighting circuits are protected by the same RCD that also protects other equipment, a fault that causes the RCD to trip will also result in the loss of lighting that could give rise to a number of risks (such as trips and falls or the dangers from moving machinery). You should perform a risk assessment to identify the effect of fitting an RCD to electrical circuits.

Work on electrical equipment, machinery or installations

Work on electrical equipment, machinery or installations should be:

Planning

It is essential that equipment, machinery or installations are prepared for the work to be carried out. This includes the isolation and release of all sources of energy (electrical, mechanical, hydraulic, pneumatic, etc), and may also involve additional work such as decontamination or the construction of a safe working platform. Isolation of energy sources should be secure, meaning that energy cannot be inadvertently re-introduced into the equipment, machinery or installation.

All work should be thoroughly planned so that it can be done safely and so that the completed installation or equipment is safe. HSE booklet Electricity at work. safe working practices provides information on how to plan electrical work in a wide range of industries. HSE guidance Electrical safety on construction sites provides information on how to plan electrical installations on construction sites.

Particular care should be taken when repairing equipment that is safety related such as equipment in a potentially explosive atmosphere, or which guards against contact with moving machinery. You should make sure that the repair will not prevent the correct operation of the equipment or adversely affect its safety in any way

Competence

People working on electrical equipment, machinery or installations must be competent to do so. The level of competence required to do a task is dependent upon the complexity of that task and the amount of knowledge required. Assessing the suitability of an individual to do a task requires evidence of:

- Training to an appropriate level in the area of work
- Experience of achieving a suitable standard in similar work.
- Regular re-assessment.

People who cannot demonstrate competence should not be allowed to work unless they are supervised by someone who is.

Maintaining electrical equipment safety

The law requires electrical equipment to be maintained to prevent danger. The type and frequency of user checks, inspections and testing needed will depend on the equipment, the environment in which it is used and the results of previous checks.

Electrical injuries

Electrical injuries can be caused by a wide range of voltages but the risk of injury is generally greater with higher voltages and is dependent upon individual circumstances. Torch batteries can ignite flammable substances.

Alternating current (AC) and Direct Current (DC) electrical supplies can cause a range of injuries including:

There are posters that give first aid procedures for Electric Shock and Emergency action, including for burns.

More detailed technical information on electrical injury is given in the standard IEC 60479 "Guide to the effects of current on human beings and livestock - Part 1: General aspects".

Electric shock

A voltage as low as 50 volts applied between two parts of the human body causes a current to flow that can block the electrical signals between the brain and the muscles. This may have a number of effects including:

- Stopping the heart beating properly
- Preventing the person from breathing
- Causing muscle spasms

The exact effect is dependent upon a large number of things including the size of the voltage, which parts of the body are involved, how damp the person is, and the length of time the current flows.

Electric shocks from static electricity such as those experienced when getting out of a car or walking across a man-made carpet can be at more than 10,000 volts, but the current flows for such a short time that there is no dangerous effect on a person. However, static electricity can cause a fire or explosion where there is an explosive atmosphere (such as in a paint spray booth).

Electrical burns

When an electrical current passes through the human body it heats the tissue along the length of the current flow. This can result in deep burns that often require major surgery and are permanently disabling. Burns are more common with higher voltages but may occur from domestic electricity supplies if the current flows for more than a few fractions of a second.

Loss of muscle control

People who receive an electric shock often get painful muscle spasms that can be strong enough to break bones or dislocate joints. This loss of muscle control often means the person cannot ‘let go’ or escape the electric shock. The person may fall if they are working at height or be thrown into nearby machinery and structures.

Thermal burns

Overloaded, faulty, incorrectly maintained, or shorted electrical equipment can get very hot, and some electrical equipment gets hot in normal operation. Even low voltage batteries (such as those in motor vehicles) can get hot and may explode if they are shorted out.

People can receive thermal burns if they get too near hot surfaces or if they are near an electrical explosion. Other injuries may result if the person pulls quickly away from hot surfaces whilst working at height or if they then accidentally touch nearby machinery.

A single low voltage torch battery can generate a spark powerful enough to cause a fire or explosion in an explosive atmosphere such as in a paint spray booth, near fuel tanks, in sumps, or many places where aerosols, vapours, mists, gases, or dusts exist.

Electricity in potentially explosive atmospheres

Areas which may have explosive atmospheres

The use of electricity can generate hot surfaces or sparks which can ignite an explosive atmosphere. An explosive atmosphere could be present in a variety of different places including paint spray booths, near fuel tanks, in sumps, or many places where aerosols, vapors, mists, gases, or dusts exist.

Areas where it is possible that an explosive atmosphere may exist must be treated differently from other areas. The Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) requires that such areas be risk assessed before any new work is carried out in them and that measures be taken to control the risks.

Care should be taken to prevent static discharges in potentially explosive atmospheres. Measures such as earth bonding and the selection of antistatic work clothing and footwear can help to reduce the risk of static discharges.

Equipment and explosive atmospheres

Electrical and non electrical equipment and installations in potentially explosive atmospheres must be specially designed and constructed so that the risks of ignition are eliminated or reduced. Techniques to do this include sealing electrical equipment so that the explosive atmosphere cannot come into contact with electrical components, reducing the power of electrical equipment, and de-energising electrical equipment where a fault or an explosive atmosphere is detected.

First Aid for Electric Shock Victims

1. Don’t touch them!
2. Unplug the appliance or turn off the power at the control panel.
3. If you can’t turn off the power, use a piece of wood, like a broom handle, dry rope or dry clothing, to separate the victim from the power source.
4. Do not try to move a victim touching a high voltage wire. Call for emergency help.
5. Keep the victim lying down. Unconscious victims should be placed on their side to allow drainage of fluids. Do not move the victim if there is a suspicion of neck or spine injuries unless absolutely necessary.
6. If the victim is not breathing, apply mouth-to-mouth resuscitation. If the victim has no pulse, begin cardiopulmonary resuscitation (CPR). Then cover the victim with a blanket to maintain body heat, keep the victim’s head low and get medical attention.

First Aid for Electrical Burn Victims

Electrical burns vary in severity depending upon:

(1) how long the body is in contact with the electric current;

(2) the strength of the current;

(3) the type of current;

(4) the direction the current takes through the body. Often these burns are deep. There may be more than one area burned. One area may be where the current entered the body and another may be where it left. Electrical burn wounds may look minor on the outside, but could be severe on the inside.