

PAIN & DISABILITYSM

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Electrical Injuries - FOLLOW-UP

Further Inpatient Care:

- Inpatient care will be required for burns and for patients with CNS abnormalities. Burns require case specific treatment done by persons with experience and training.

Further Outpatient Care:

- Lightning:

Patients released from the ED with good CNS function but with otoscopic abnormalities should be referred to a person experienced in treating ear disease and injury. All patients should be referred to an ophthalmologist for evaluation of possible cataract formation, which is reported to occur after lightning strikes.

- Patients without CNS abnormalities, massively elevated CPKs or with electrical burns need no further follow-up. Complete and full recovery is to be expected.

Transfer:

- All patients with history of exposure to high voltage should be transferred for inpatient treatment, preferably by a burn center, on this criterion alone. In addition, mouth burns in a low voltage situation should receive specialized treatment generally available only in burn centers.
- Transfer to an in-patient treatment area should be done if there has not been full return of CNS function, there has been a greater than three-fold elevation in CPK or the presence of myoglobinemia/uria, or there is a persistent arrhythmia.

Deterrence/Prevention:

- Prevention of high voltage electrical injuries requires on-going public education, directed particularly to those in construction trades, using cranes and lifts or exposed to the extreme danger of overhead powerlines. It is particularly important to educate adolescent males regarding the serious nature of electrical distribution equipment.

- Lightning:

When thunderstorms are in the area, never ever be the tallest object. Avoid golf courses and open fields. Do not stand besides trees. Seek shelter in buildings or cars. If caught outdoors, lie on the ground.

- Low voltage:

Never ever use appliances which give you a shock, until they are repaired. Encourage the use of GFCI's on all outlets where a person may be grounded but always in bathrooms, kitchens and outside. If using equipment with no built in GFCI, use a GFCI extension cord.

Complications:

- Lightning:

If consciousness is regained before arriving, or inside the ED, a full recovery is expected. Prolonged unconsciousness leads to a graver prognosis. Full recovery is not expected if unconsciousness persists for

24 hours.

- Low Voltage:

If there are not significant burns, and if consciousness returns before arriving to or in the ED, full recovery is usual. Rarely, persistent arrhythmias have been recorded. Persistence of unconsciousness leads to a graver prognosis. Full recovery is not expected if unconsciousness persists for 24 hours.

- Low Voltage Mouth Burns:

With proper treatment, the disfigurement of low voltage mouth injuries can be minimized. Scarring will always be present but not extremely disfiguring.

- High Voltage:

Survival with massive burns is now the exception rather than the rule. The incidence of extremity loss has been reduced with improved treatment but has not been eliminated. Severe disfigurement is the rule, even when extremities are preserved due to the massive irreparable destruction of nerve and muscle.

Prognosis:

- For those without burns, prognosis is based upon CNS function. If it promptly returns, prognosis is excellent, even in patients who arrest.
- For those with burns, survival continues to improve with the improvement of burn care. Disfigurement continues to be a major problem.

Patient Education:

- If the cause of the injury is established, obviously counseling concerning avoiding such hazards is important. Generally, the injury speaks more eloquently than we do.