

ELECTRIC SHOCKS

FOREST INDUSTRY HEALTH RESEARCH PROGRAM

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FIHRP FOREST INDUSTRY HEALTH RESEARCH PROGRAM has published a report titled *“Long-Term Health Effects of Electric Shocks”*. The report is available to FIHRP members on the Pulp and Paper Employee Relations Services website at www.paperforum.com or contact Scott MacLean by phone (604) 532-0642, by fax (604) 532-0639, or by e-mail at smaclean@paperforum.com. Non-members of FIHRP may be charged for the report.

The report describes long-term health effects of electric shocks that may occur for electricians and other workers. The study involved a review of published papers and books describing occupational health surveys and case studies evaluating the long-term effects of electrical injury.

Electricité de France published results of a study examining health outcomes, particularly late side effects, of electrical injuries for 2080 workers from 1970 to 1989. Most workers survived (2024) and 75% of the survivors recovered completely with no long-term health problems.

- Effects directly related to **burns**, particularly electrothermal and mixed burns, represented most of the long-term health problems (63%) - ugly scars, joint stiffness, and pain.
- **Neurological and psychological effects** were the next major category (18%). Muscle weakness, loss of hand-grip force and tingling sensations were common. Other health effects included carpal tunnel syndrome, posttraumatic stress disorder, mood and personality disturbances, and paralysis.
- **Effects on eyes and ears** (12%) included chronic conjunctivitis, hearing loss and tinnitus.
- **Deformed and broken bones** (5%).
- **Cardiovascular effects** were rare (1%).

A paper published by the University of Chicago concluded that neuropsychological complaints and emotional changes were not directly related to the severity of physical injury, voltage exposure, litigation, return to work status, or previous psychiatric history.

Long-term follow-up of electrical injury victims for physical and emotional effects is critical. One study concluded that electricians are unlikely to seek medical attention unless the injuries are traumatic.

Occupational health studies provide convincing evidence that high-voltage and low-voltage electric shocks can cause long-term health disorders. The disorders may be physical or psychological, and may lead to permanent disability depending on the nature of the injury, the willingness of the electric shock victim to seek medical help, and the willingness of medical professionals to take reported problems seriously.