

## **Lightning related human risks and risk management**

### **ABSTRACT**

A comprehensive account of lightning related hazards to human beings, both at general locations and at work place has been given. The injury mechanisms are analyzed from both engineering and medical perspectives with the view of determining the factors to be considered in risk assessment for minimizing adverse impacts of lightning from both direct and indirect effects. The paper provides practical approaches in evaluating the degree of risk of lightning related injury to humans at nearly any given location. The paper highlights many dependent and independent parameters in determining safety assessment schemes against lightning-related human hazard. It also emphasizes the need for development of human safety guidelines in addition to established lightning protection standards that focus on property and services. While most risk index parameters are valid globally, in some cases, there may be special regional or local factors that should be considered.

**Keyword:** Lightning; Safety guidelines; Injury mechanism; Risk management; Human hazards