

# The Factors Influencing Mechanical Injuries in Forensic Science Practice in Tropical Regions

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## **Abstract**

The proportion of global tropical regions is approximately 30%. In tropical areas, due to the specificity of climate, environment, diseases, and certain unique civilian tools, forensic science practices and research must particularly consider the impact of these factors on the human body to ensure judicial accuracy and fairness. This paper summarizes recent research articles on mechanical injuries in tropical regions and conducts a factor analysis based on the actual forensic practices in Hainan Province, China. It is concluded that in tropical environments, the most critical factors to consider for mechanical injuries are high temperature and high humidity, followed by the influence of insects and microorganisms. Additionally, unique fauna and flora in tropical regions, as well as distinctive tools used by local residents, can also cause unique mechanical injuries and should be taken into account. In forensic practices in Hainan Province, due to climatic factors, the development and progression of injuries are rapid, thus requiring attention to the optimal timing of injury identification. Moreover, in coastal tropical areas with high usage of watercraft, injuries caused by propellers need to be addressed. The unique injuries caused by tropical fauna and flora require accumulation of experience from local forensic experts. This paper suggests that the establishment of a systematic and comprehensive tropical forensic medicine system is crucial for forensic work in tropical regions.

## **Keywords**

Tropical Regions, Forensic Science, Mechanical Injuries